

AGCTGAGAC TCTGCGTGA AGAGATATTC GGCCTGTGG CCGTAGTTGC GAAATTCAG 180
 GACTAGGATG AAGCTATTGG TTACGCTAAT GACACTAACT ATGGGCTGGC ATCCTGCGTT 240
 TTCACTGAAA ACATACGGGT TGGCACCGC TTGTCCGTG ATGTCCAATC TGGCACTGTG 300
 TGGGTAAATT CCTCTAATGA TGAGGAGGIG GGAGTCCCTT TTGCCGGGTT CAAGATGAGC 360
 GGATGCGAA GGGAGCTGGG GAAGGCAGGC CTGCAAACTT AACTOCAGAC TAAAGCAGTA 420
 CACTGAACT TTGCTTAGAT AGAGCAACTC ATATATTAGA ATCACTTCAT ACATCAACTA 480
 TATATCATT TGTATATGAC TATGCCAGAG GTGTAGTGA ACCACTATTT ATCACTGAT 540
 AGGGTTGGG CGGTATCCC GCCAGTACCT GGGTGCAGA ACCCGGGGGA CACATTCAGC 600
 AGGTCTATA TACAGTTGTC GAGGACAGTA TGGCACGAG TACCAATTATA GCAAGTAAGC 660
 CGTGTGCTGT TTGCATAAAG CGTAAGGTCA AGTGGGACG GCTGGTTCCC TCACGAACT 720
 GTGTCAA 727

(2) INFORMATION FOR SEQ ID NO:739:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1481RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:739:

GATCGATAGG CCACACTTTC ATGTTTGTG TTCACTGA AAATCAAAT CAAGGGACT 60
 TTACCCCTT TGTCTACTG GAGATTTCTG TTTCATGA GTCCCCCTTA GGACATCTGC 120

(II) 396

GTTATCGTTT AACAGATGTG CCGCCCCAGC CAAACTCCCC ACCTGACAAT GTCTTCAACC 180
 5 CCGATCAGCC CGTATAGGAC TTATAATGCT AGAAGGTGGA AAATGAATTC CAGCTCCGCT 240
 TAATTGAATA AGTAAAGAAA CTATAAAGGT AGTGGTATTT CACTGGGGCC GAAGCTCCCA 300
 10 CTTATTCTAC ACCCTCTATG TCTCTTCACA ATGTCAAAC AGAGTCAAGC TCAACAGGGT 360
 CTCTTTTCCC CGGTGATTCT GCCAAGCCCG TTCCCTTGGC TGTGGTTTCG CTAGATAGTA 420
 15 GATAGGGACA GTGGGAATCT CGTTAATCCA TTCATGCGCG TCACTAATTA GATGACGAGG 480
 CATTTGGCTA CCTTAAGAGA GTCATAGTTA CTCGGGCCGT TTACCCGGCC TTGGTTGAAT 540
 20 TTCTTCACTT TGACATTGAG AGCACTGGGC AGAAATCACA TTGGGTCAAC ATCACTTTCT 600
 GACCATGCCA ATGCTATGTT TTAATTAGAC AGTCAGATTC CCTTGTTCG TACCAGTTCT 660
 25 AAGTTGATCG TTAATTGTAG CAA 683

(2) INFORMATION FOR SEQ ID NO:740:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1481UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:740:

50 GATCGGGTGG TGTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG 60
 TTCTGGGGGG AGTATGGTGG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCAACCACC 120
 55 AGGAGTGGAG CCTGGGGCTT AATTTCAGTC AACACGGGGA AACTCAACCAG GTCCAGACAC 180

AATAAGGATT GACAGATTGA GAGCTCTTTC TTGATTTTGT GGGTGGTGGT GCATGGCCGT 240
 5 TCTTAGTGG TGGAGTGATT TGCTGCTTA ATTGCGATAA CGAAGAGAC CTTAACTTAC 300
 TAAATAGTGC TGCTAGCATT TGCTGGTTC GCACTTCTTA GAGGACTAT CGGTTTCAAG 360
 10 CCGATGGAAG TTTGAGGCAA TAACAGGTCT GTGATGCCCT TAGAGTTTCT GGGCCGCCAG 420
 CCGCTACAC TGACGGAGCC AGCGAGTATA AACTTGGCCG AGAGGTCTGG GTAATCTTGT 480
 15 GAAACTCGT CGTGCTGGG ATAGAGCATT GCAATTATTG CTCTTCAAG AGGAATTCCT 540
 AGTAAGGCA AGTCATCAGC TTGGTGTGAT TAGTCCCTG CCGTTTGTAC ACACGCCCG 600
 20 TGCTAGTAC CGATTGAATG GCTTAGTGAG GCTCAGGAT CTGCTTAGAG GAGGGG 657

(2) INFORMATION FOR SEQ ID NO:741:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 694 base pairs
 (B) TYPE: nucleic acid
 30 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1482RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:741:

45 GATCCATTG TTAATATGCA TTGTCTACAG TGAGAGCAA GAGGGCGGG GATTTAAAGC 60
 ATGGTGGGC GAGGCTATT TTAAATGGG GTTGTTTCA ACGTTTGG CCGGCTTCT 120
 50 TGCTCTCAT AGTGAAAAGT TCATTGCCA AAGAACGTAC GAATCTTTC TGATACTGCA 180
 CAAGCTCTTC AACATTGTCT TTATTGTATG CATGTATATG CACATCAAAA CGCTGGGATG 240
 55 GCAGGCTGG GTCTGGTGA TGGTGGCAT CTACTGCTTC GAGGTGTGG CCGGATAGC 300

TGGCATGTGA CTTCCTGGAG GCATCAAGAA GGGCACATTA ACAGATGTTG GGGATCGCGT 360
 5 GGTCAAGATG ACAGTGGAGA AGCCAAAGCA TTTCAAATAT TACCCGGGGG CTTATGTTTT 420
 CGTTTATTTT ATTAGTGGGA AGGATGCTTG GTTCTATCCA TTCCAGTGGC ACCCGTTCAC 480
 10 CGTCCTTAAT ACACCCAAGA TGATGGGGA CAACCTGGTG ATTATTTCA AAGTGCACAA 540
 GGGCGTGACG CAGCAGCTOC TAAACAGGAT CTTTCTATCC GGGAAAGAGT CCATOGAATA 600
 15 CAAGGTGCTT CTAGAAGGCG CCTATGGAAA CACCATTCGG GGGCTTGCTG CTCTGACCG 660
 GGGCTACGTG GGGGOCAGCG CAGGTCTTGG CGTA 694

(2) INFORMATION FOR SEQ ID NO:742:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1482UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:742:

GATGGGGGGG TTGGGGGGGG TGGGGGCAAA GCTGAACCGG TCGGGGGGA AGGATCCGAT 60
 45 GTGGGGGCTG CGGAATTACT CGATGAAGTG CAATGAGGCC AACGATGTGT ATCTGCTGCT 120
 GAACGGGTGC AGCCACGTAG CCTGGCAGGT GAGCGACACA CTCTCGATT GGTGGCCAG 180
 50 CACCGAGGAT GAGCCGGTGA TGAGCTGGT GCTGGCAGAG TGCTGAGG TGAACCCGCC 240
 GCTGGAGTTC CCGGTGTTTG TACGAGGTGG GGAGGTCTG GGGGGTGCC AGCGGGACCT 300
 55 GAATACTAT GACTACCTGA AGCCCTGGA GGAGAAGCTG AGGACGGCCA TTGAAGACTT 360

CGTGCACGAC GTGATGCTGC AGCGGCTCCC GGACGACACC TTGTGTGGG ACGTGTACAT 420
 5 CCGCGGGCCG TTCACAAAGG TCTGGCTGAT CGACGTGAAC CCGTTTGGC GGGAGACCGA 480
 CCGGTGCTG TTTCATGGA ACGAGCTGTG CACCTGAAGC CCAAGGCGA AGGGCACCGG 540
 10 AGCTCGGCT GGTGCGGAA AACTACATG GTGGCTTGC GGAAACAAAC ATCGGTGCT 600
 TGGACGGAA AGGAGCACTC GGAACACCAG GTACCTCTGG ACGTGGTGA GGCAGGGCTC 660
 15 AATCGCAAA GCATGCAGAA GCTGGTTGAG A 691

(2) INFORMATION FOR SEQ ID NO:743:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 581 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1483RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:743:

GATCAAAAA ACCTCTWAAG GTACAGTCTC TAATTGCTTC CATSTCTTTT TGAACATACA 60
 40 TGGACCATGC ATCTCTGTTT TTGTTACGGA CAGAATCTG YAATGCAGCA ATGGCACTTG 120
 GCTGTTGAC GTGCTTATAA CCACCATCCC TCCAATGGTA TTGGCCGGCT TCAGGCAAGT 180
 45 TGACAGATCT CTTAATCKTA AACCTGATG GATAMCCGGG CTGTGCAAT GAAAAGGGT 240
 CTTGSGCAAT GTATTCAAAG GTACACCCCT TAATCTAGA AGCGGTTCCG GCAAAACACA 300
 50 AATCAATCAC TGAGTTATCA ATACCTAAAG CTTCAAATAT CTGGCTCCC TTGTAAGATG 360
 CCAGAGTAGA GATACCATC TTGACATGA CTTTGTAGTAT ACCGCCGTCA ATTGCTTCTT 420
 55

TGTAATTATG CAACAGTTTC TCATCTGTAA TATCAGAGTA GTCATCGTTA ACATTCCGAA 480

5 CTAAACCTTC GTATTTCATT CTGACCAGGG TTTCATCGC TAAGTAAGGG AAAATACCGT 540

CACACCATA GCCAAGAAGA ACACAGAACT GGTGAAC TTC G 581

10 (2) INFORMATION FOR SEQ ID NO:744:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 668 base pairs
(B) TYPE: nucleic acid
(C) STRANDELNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1483UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:744:

30 GATCATCAGC CCGCTGCTC CGCGCAGTA ACGGCTCAC GTGTAGTCT GCGTCCCTG 60

35 CTAGTCGGTG GCTCATCGAG AGGTCTCTT CTCAGGCTC GGAGTTGGC ACGGAGGCAC 120

TTGAAAGACT CTGTCTTGA TTCAATCCC CGCCCCGTA TTCTGGGCC TCGTGGGGTG 180

40 GCTTGGTGAG GCGCTCCGC TGCAGATCTT CAACGTCA TCCTCAGCTC TGGAGTTGG 240

CAAGAATTC GGTTCCTGA GAGACATAGA ATTGTCAAT TCGCTCAGC TCCTTATCCA 300

45 GCGCGCAAT GAATCTTTG ATGTAGCTT GTGCAAGGG CACCGCTCG GGTCTCTGT 360

CAACGCTC ATGCTGGTAC AGCTTGTCTT TCTCAGTGT GTACAGAGC TTCTTCAACT 420

50 GCGAGTACG GATATACTTC GACGAACACT CAGGGACGC GTTGAATTG AGCGAATGTG 480

AGAACTTCAT CTTGGCTTCT ATGCGCTAAC GCGCTGGTC CGTGGGATA CAGGTCTGTC 540

55 TCATTGAAG TAAGCAGGC AGGCATAGT TTAATTCCAG GCTCCAGGA GATTTTGTG 600

CAAGAGGACG TTITAATCTT CATTATATCA CGTGCCCTGG CTATATTTAT AAAGTTGCTT 660

CTAACGGG 668

(2) INFORMATION FOR SEQ ID NO:745:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1484RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:745:

GATCCTCTTC TATAACTCAA TTAACAATGT TTCTCTCTGT GGAGTGGTTC CTGCATCTTC 60

CGTAACCCCTT TCATTCTGAG GGTAGGCAT TTTATCTTTC TGCGCTGGAA CACTCGGGAA 120

TTCAAATTGA GTTATTGGCA CCTGTGCTTC CTCTCTCTTG TCGGTATAC TTTCTTCAGG 180

AGGATAAAGA GGCTCCGATG GTGATGATAG CAGTGTCTTC TTAATATCCG GTTCTGAGAC 240

CTCGGGCTCA AAGCCAGTTA CTGATTGCGA CTGGCGATTC TCCATCGGG AACTTTGTGT 300

GGTATGTAGG ATTCTCTGAG TGASTTCTGC ACGTTTGAA GAGCTCTGG CATAGCTACG 360

ATATGTTGGC TCAGGTTGG TCTTCTCGTA CGGAACAGTG TTGGCTGGAG AGGACTCTGG 420

TTGTGGTGC ATTTGATAAG TGTATGGATC AGAAGGTAAG TGTGGCATGG AATATTGTTG 480

CGAAAGATTA ATATTCTTCA ATTGTCTCTC TAACATGGTG TCATAAATGC TCATTATATC 540

CGAAATTTTG GCATTCTGT CTACCAAGGT ATTATATTTG TGAAACGTAT CGTTAAGGA 600

ATGGTTTAAC CGAGGCCGAG TTCCAAGGAC CTCTGGTAT AGCATCTCCA GCTGTGTATC 660

CTCTAACACG GCATTCATTC GCTGACCCCTT CCTCTTCCTC CACTAGG

707

(2) INFORMATION FOR SEQ ID NO:746:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1484UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:746:

GATCTGGGAG AACGTGCTAC AACACTGGTG CCGGGTCAAG CCGGACCCGA AGCTGATCGA	60
CCAGCAGCCG GAGATGAACC CCAGCACAC GCGGACTGGG ATGTGAACT TTGGGTTGGA	120
GCTGGGCGAG AAGACGGGG TGACGAACGG GATCTTTTTC CACGGGTGC GGTGTACGA	180
CCGTTACTGC TCGAAGCGCG TGGTGCTAGG GGACCAGGG AAGCTGGTGA TTGGACCTG	240
CCTGTGGCTG GCGGCGAAA CGTGGGGGG GTGCAACAC ATCATCAACA ACGTGACGGT	300
GCCTACGGGT GGGGCTTCT ACGGGCCCA CCGGGGGCG CGCATCCGC GTCTGTCCGA	360
GCTGGTGAC TACTCGGGG GGTGAACT GTTTGACGAG TCGATGTTCA CCGAGATGA	420
GCGCCACATC CTGGACAGC TGAGCTGGA CGTGTACGAG CCGATGGTGA ACGACTACGT	480
GCTCAACGTG GACGAGAACT GTTTGATACA GTACGAGCTA TACAAAAGGC AGCTGCAGCA	540
CAATGGGCAG TACGCCAACA AGCGCAACTC GCAGGACAGC AACCGGACCG AGGAGGACGT	600
GTCCGAGGAG GACGAGGACC TGGATAACAA GATCCAGTTA ATCAACATCA AGAAGTTTCT	660
GATAGACCTG GCGTCTGCG AGTAAGACCT CTGAAGTAT GAGGTATTCC GAGCTA	716

(2) INFORMATION FOR SEQ ID NO:747:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1485RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:747:

5	GATCCCCCGG TTATTAGCAC GGTGCCCTTAA CCAACTGGGC CAAGGAACCA ATTACACTTA	60
25	AGATGCTATT TGCAGATAAT TGTAGTCCAC TCAAGTCAAC ACGGCATAT TTACTTTCT	120
30	AATTCTTAAA TTCCTAATC TAAGCCAATC TAAGTAGTTT ATCCTATCAT CACTTGTCC	180
	TTGGGTTTGT TTGGTCTATA ACCTTAAAT GGTAGTCTT TATGGAATA TATATAATGA	240
35	GATATTACAT GGTGCCATA TAACCTCCGT ATGAGAGTTT GCGCGAGTGG TTAAAGCGGT	300
	CAGATTTAGG TTATCTCTCT AAAATCTCTG ATATCTACGG ATTGCGGGT TCGAATCCCG	360
40	TAGCTCTCAT TATTTTGTGT ATATGTCTTT TCTCAGGCAT GTGACATTTT GCATCATTAAT	420
	CATACCGAAG ATATGGCTCC CACCGTGACC TGATACATTC TCGCATCTGA AGGCATGCCA	480
45	TTTAATGCAA CTGTGGCTGC AGATGCTCTA GGTAGGAAT AGCACAACAT CTAACAATA	540
	GCCTGCCATA TACAGGCCAA TGACAGGTC TGAGTGTGTG TGGCACCGAT CATAAGCCAA	600
50	TTCTGATTTG CTGAAGACAG GCTATGAGTC TCCACAGTC CTCCTTCTG TCCCATACGC	660
	ATATAAATAC CCTTAAACT CAATTAGCCG GTATTTTATT TGAGCTGCAG AAGGTATCTT	720
55	AACTCAGGTA TAATATACTG TAATGGGG	748

(2) INFORMATION FOR SEQ ID NO:748:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 755 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1485UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:748:

GATCGGAGGT AGTGTTTTTCG GTGGGCACGG AGCTGTAGCA CGCGGGGTCC AAGAGCGGCA	60
TTGTGCTGTG TATGTTGGTG ATGACCTCGA TGAGCTGCTT GCGGAGGTCC TCCAGTAAAT	120
CTTCGGTGCG GAGCCACAT TCCTTCGGGT CGCGGAAAT GGTGCGAAG TACTCGAGCT	180
GCTCGGAGAC CTTCTGTAT TCTAGCTCC GGTCAAGCA GACGATGGCG TTGGCTGAA	240
GGATGTTGAG CTCGTGAGC AGTCAACGA GGTGTCGAA TTGTGGCACC GCGTCAGCG	300
CGCGTGAT CGCTTAACA AAGGCGGCC GGCCTTCAG GCGTGTCCA CTAAAGAGAT	360
CACTGGCTC GAAAATGCTG ATTGCTGCG GCATGTACG CACAAGCTGG CGGACACGA	420
ACAGATAGCT CATGTGCGG GAGTTCGAG TCACGCTAAC TGCGAGTGC TTGGTTGAGT	480
GGCTGAAGG CCTACTGCC CGGTAGGCG ACCCGAGAA TGCGTCATCA CCTGTCTTC	540
ATCTGGCTTG AGATACAAAT CCGAAGCGG CAGTTGCT GTCATGCGAG AGTTGTTTGA	600
CAAGAGCAG CTCGTAGTC GCTGCTGAG CTGGCCACT TTCTTTTGA GTAGTCCAC	660
TTCAGTCCC TTTCGGATA GCATGAGCTG CAAGTGGCAG TTCTGTTTT GCAAGGCCAG	720
CACCTCATG GCGCGGTAC CGCTGCTTT GCAGA	755

(2) INFORMATION FOR SEQ ID NO:749:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1486RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:749:

GATCCTTCCT	GTACATTCT	GATTTTAACA	ATGTCTTCAT	AGCGTATATT	TTACCGGTAT	60
CTTCTCTCTG	CACCAGACGG	ACCTCACCGA	ATGCACCCCT	TCCTATGACT	TTAACAGTGT	120
GGAAATCTTC	CAGGGATAGC	CGTGCTCTAC	GCAAGCGCAG	AACTGCGAC	TCCTTTTAC	180
CCAGTGAAGA	AAGCTGTCTG	TTCTTTCTCT	CTTCAGACCA	GCCATGAGAT	AATAGCTGGG	240
ATTCAAGTTC	CACCGTCTTT	TGGTGGCGCT	CAATGGCATG	ATTGACAGAT	GATTGGTAGA	300
AATCTCGAC	TTTCAGCTTC	ACTGCAGCCG	CTTTTCTTTG	TGTGGATTTG	CTCAGTAGCT	360
CTGGACGTCT	CTCGAAGTAC	ATATAGTTCC	CCACTCCCGA	GGTTTGGCGT	TGGCCCCCAT	420
TGGCGGATTG	TGGAAGTGAA	GAGCACTGCA	GCGACTGAAG	GGATAGCATA	GCGGCTGGG	480
AGCTCTGGTT	TCCCACTAGC	GTCTGATCGC	CAAGGCTTCC	GTCTAGTAGT	CCAGGTAGAG	540
CTGCAGGCTG	TAAAGGGGAC	TCCGACCCCC	CAACTGTTT	ATAAGCAGAG	GAAGCAGGCT	600
GCTGCCCCACT	GTAGTCCGAG	CTGTGGAGT	AGTGTCTTGG	TGAAGAATGG	CCGGGGGCAA	660
GAGTAGTGTC	GTTCAAGTTC	CGTAAAGAG	TTGTGTCTCT	GGCTGTAAAT	GCTGGTGGCC	720
GTAGGGGGG						729

(2) INFORMATION FOR SEQ ID NO:750:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1486UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:750:

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25  GATCAAAACA GCATGTCTAA GTCTGTTCGG CGCTGCCCGC AGTGCCACAC GGAAGTCGGT    60
    AAGTGCCTCA TACAGCAGAA CTACAGCATC GTGATTTGCC CGAAGAGCA GTGCATGTAT    120
30  CCGTTCATG AGGCGGAGGT GATCCAGCAC CTGGTGAGA CAAGTGACAA GGAAATCCTG    180
    GAGGCTGCAA AGGTGGGGCT GAAAAAGAT AATATCACAG GCAGCGGAGG CGCGCTCATG    240
35  GAATAAGGAA CCAACCGTGT GCTATATAG TGTACTGTCT ATGTTAAGTA GGTCTGTGTC    300
    GCGCGAGCC CTGGTGCTT AAAGCTTTAG ATTGGAGTTG TACATGATGT CGCCATCGAC    360
40  GCTGATGCTG ACACTGAAGT CAAGGTCCTC GTGGGTGGAT ATGTGCCAGG TTTTATATAT    420
    CATCATCAAC GCGAACACAT TGCAAAATGCT GCGATGAAC AACCGGTGGA GGTAGTGCTT    480
45  GACGCGCTCG CAGATCTGTT ACGAGATGGT ATACATCAAC ACCTGCCAGG TAGTTATAAA    540
    AATGACACCC AAAATGGTGG ACCCTGTGAT CCAGAAGTTG GAGAGCAGCA AGATGGAGAC    600
50  CACGAGCTGG CACACCGAGT ACATTAGGAA CGCGAGGCCA TTGAGGCGGT ACATTACAAC    660
    GAAAAGGGGG TGTGTTTGTG TTTTATGTCG GGGTGTGCTT GAATCCAATT TGGTGAAGG    719

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(2) INFORMATION FOR SEQ ID NO:751:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1487RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:751:

GATCGAGCGC GAGGCCATCA ACAACGAGGA GTTTGCTTAC CAGCAGGAGC TGATAAGAAA 60
 GCGGGAAGAG GAGATAGCCA ACATCGAGCG TGCTATCGTT GAACTCAAGC AGGTCTTCCA 120
 AGACTTGGGG TCCATCGTGC AGCAGCAGAG CGAGCTGGTA GACCACATAG AAAACAACAT 180
 ATACACTGCG GTAACGAGCA CGAACCAATC ATCTAAGAA CTGTGCGCG CACTGAGATA 240
 CCAGCGGGGT TCCAACAGGT GGTGCTATA TCTGCTTCTC GCTCTGCTGG CATGCTCTTT 300
 CCTGATCGCG GTGACAGTGC TTTAGAACAT CTCAACTAGT CTACTATGTA AGCTTTAAT 360
 ATACTACTGG CTGACCTACT CCTCCCGCAG TTCCACACAG TTCACGAGC CGTCATCGCC 420
 GCGGTCACC AAAAGAAGC GCGGCTCTAA CGCCAGCCAT TTCACACAT TGATCTGTA 480
 GACCGTGTC GCGCAATCTA CGCGGCTTAC CACTTCCAC CGGCCAGCT GTACTCTTT 540
 GTATACCGCC AACACACCAT CGGAGCCAC GCTCGCGATA AGCCCGTCCG CGCTCCAAT 600
 TACGCTGTAC ACAGCCCGCG TATGCAGGC CGGCAGGACC GTCTCTTGA TCCACTCTTT 660
 GTGGAAGAGC TCGCGTCTGT CAGTGAGCCA CGCCAGATG GGC 703

(2) INFORMATION FOR SEQ ID NO:752:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 612 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1487UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:752:

GATCCCAATA CTGGGACTTT ACTAATACCA GCCATGCGGG CAGCTCTGCA GCACTGGTA	60
ATGACAAAGA GGACAAGAAG AACAAATACT GGAACGAGA CCGCGAGTAT CTGATCGAAG	120
AGGTGAAGAA AAACAAAAG AGTGTAGTAA ACTACCTTGA ATCGAAGACG AACGACGAAA	180
TGACCCGCAA GGGTCTGATC CGGAACCTGC AACGATTTC AAAGACAATT CTAATGAAGG	240
AAGGGTTGCA AAACCTGGAG GATATGTC ACGTTTCTCA TTGGAAGAAAT AGACTGCTGG	300
TAGCCCTAAA ACTTAACGAG ACAATGAAT TTACCAAATT ATTGAAGTC TATTGCATCA	360
GCCTAGCAGA AATGGGCTTC AAAAATAGAT TGGATGATGT GCTGAGCTGG CTGTATAACG	420
ATGGAGAATA CAAGGTTGCG ACAATAGCTA ACGAGAAGCG GGAGGAACTG CTGAAGCAGA	480
TATTGGTTGC ATGTGCTGAT ATCGGCGAGG TCCAAAGAGT GACAACCACT TAGGCATCTG	540
CTCTGGTCTT TCTTGAATGA TCTTTATAAT TATTGCTAGT CTATAGACAA AGTTGGGAAT	600
CTGAATATAA CT	612

(2) INFORMATION FOR SEQ ID NO:753:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1488RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 753:

GATCAACAAA TGATTTTCTT ATTTTCTGGG CACCGATCAA CGAGATATCA TAGGAATCAA	60
TGTTGCAGGC AAATCCCTCA CCGAGTATGA AGCTCTGGTA TGCTGTGGC GTTGTCTCTT	120
TCATTAACIG CCGTCCCTG GCGAGTCC TTAAGTTTG ATGATCGAGA TATCCACAAT	180
TTGGCTCATT CATCTCTCC AATCCAATGA TGCAGTTTC TTGGAACAAC TCAGGCGGT	240
TGTCTGAAT GTACTGTAG AACGTCATTA CGGCTTCAA GAAGTCCCC TGGAGGTAGT	300
CTTGAATATT TCTACCATTA ATTACACATT TAGGGGCAAA TAACTTGCCG CTAAAAAGA	360
GAGTGAACAT AGTCTGGCAG CCTAGGCGGT AATAGTTGT GGACCAAATC ATTCTGAT	420
ACTGTGCTTT TTCCGCTGC GTCTCTGAAT CGATATAGTA GTTGTGCAAT ATGGCAGCT	480
CAGTAGCTAG GAACCTCTC GGCTGAAAGC CTGGGCAATG CAACGTCCAT AATGGGCTC	540
CTGATCCCC AGAAAAGGA GACCACAGT CTTGGTGGG GTCTAGGTAT ACGTACATG	600
CGCCCGCTC CTGATCTTT TTAAGCACCA TCACGTGTA CTTCAATGAT TCTCATGT	660
ATATCCCTGG GCGCCATGC TCAAGGCTT CCGAGTGAA CAAATAAGG ATACA	715

(2) INFORMATION FOR SEQ ID NO: 754:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 684 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1488UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:754:

10 GATCTGTTT AAGCTGCTG TGAAGTTTGC GAAGGGTAT GAGCTTTCAC GACCGAAAC 60
 AAACCAGCTG AAGCGGTCTA TGGGCGATGT CTTCCGGTTG GTGCCCTTTT CTGCTTCTCT 120
 15 GATTATTCCG TTTCAGAGT TGTTCCTGCC CTTCCGGCTT AAGCTTTTCC CCAACATGCT 180
 GCCATCCACA TATGTTTCTG GGACGGAGAG ACAACAGAAG AGAGTTAAGC TAGAGGAGGT 240
 20 GGGGCGCAAG ACGTCCAAT TTTTCAGGA GACTTAGAG GAGTCTCAT TGATCAATTA 300
 TAACTCGSTA GAAGGTTTCA AGAAGGCAA AAAGTTTCTG AGCTTCTTCC AGAAGGTGAA 360
 25 CTCCTTAAG GATGGCAAGA CCACTGTTTT TACCATGAA GAGATTTTGT CCATCTCCAA 420
 AATGTTCAAG AACGACACTG TCTTAGACAA TCTCTCCAGG CCGCAATTGG TTGCCATGGC 480
 30 GAAGTATATG TCCTTGGGC CTTTGGCAC TGACAACATG CTTAGGTACC AAATCCGTTA 540
 TAAATTGAAG AGCATGTTG AAGACGATAA GAAGATAGAC TACGAAGGTG TTGAGTCACT 600
 35 GAGTACAGAG GAGCTCTATA GTCCCGCGC TTCCGCGCGG ATCAAAGCCT TGGTGTTC 660
 TAGGGAAGAT TTGTTGAAA AAAT 684

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(2) INFORMATION FOR SEQ ID NO:755:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1489RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:755:

5	GATCAGCCCG GAGCAGTGC AATCATTGAA CGAAAGCCCG GGGTGGCTTG CTTTGGCGAT	60
	GGAGAGTCAC ACGGACCCAA TTACCGGTGA GAGTACATTG GTTGGTTTTC OCTACGTTGT	120
10	TCCGGGCGGT CGTTTAAATG AACTTTACCG CTGGGACTCA TACCTAATGG CTTTGGGTCT	180
	TCTAGACTGT AACAAAGTGG ACATAGCAAG TGGGATGGTT GAGCATTTC A TCTTTGAGAT	240
15	AGAGCATTAC GGTAAAATAT TGAACGCCAA TAGGAGCTAC TACCTCTGTC GGTACACAAC	300
	CCCGTCCCTA ACCGACATGG CTTTGAAGGT CTTGGAAAAG TTGGTGGTG ACCAAAATCC	360
20	TACCGCTGTG GATTTCCTGA AAAGAGCATT CATGGCAGCC ATTAAGGAAT ACAAGAGTGT	420
	ATGGATGGCA GAACCGCGGT ACGACAAAAC CACGGTCTTT TCATGTTATC ATCCAGATGG	480
25	TATCGGTTTC CCACCAGAAA CCGAGCCTGA CCACTTTGAC GCAATTTGCC GGAAATTGTC	540
	GGAAAAGCAC AATGTAAAGA TTCCGGAGTT CAGGTGCATG TACGATGCG GCGAAGTACA	600
30	CGAGCCCGAA CTAGATGAGT TCTTTTTCGA TGATCGTGCT GTAAGTGAGA GTGGACATGA	660
	CACCTCTTAC CGTCTAGAGA ACGTCTGTGC TTACTTAGCG ACGATTGATT TGAATCGTTA	720
35	CTATACAA	728

(2) INFORMATION FOR SEQ ID NO:756:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 698 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1489UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:756:

5 GATCGTAACA TTGCCAATA GCTGTGTTAG CTGTCATCG TTTCTGATGG CTAGCTGTAG 60
 ATGTCTTGGG ATGATTCTGG TCTTCTTGTT GTCTCTGGCG GCGTTACCGG CCAACTCTAG 120
 10 GATTTCGGCG GCCAAGTATT CTAGCACAGC GGTTAGGTAC ACAGGCGCGC CGAACCAGAT 180
 TCTCTGTGCG TAGTTGCCCT TTCTGAGCAA TCTGTGGACT CTACCGACAG GGAAAGTCAA 240
 15 ACCGGCTTCA GCCGATCTCG ACTGCGAAGC CTTGGCGGCA GAACCAGCTT TACCTCCTTT 300
 ACCAGACATT ATTTGTGTG TGTTGTGTG TGTTGTGTTA GTGTGAAGTG CGTGTGCTAT 360
 20 GAGAAAACAC TACGCTGAAA CTGCTAAATA ATCCAGACAG GTCCCCCAC CGCAAAGGAT 420
 CCACGCTATA CTTCTCTCTA CATATTTATA CTGTCTCTT TGCTTTCTAA TCTTCGATCG 480
 25 TACGGCTCTG ACGCTTCAAC AGACCTTCAC TAGAGGCTCG ACGTGTGCGG GCTGGTTTTT 540
 TCCATGACA TGTCCGTGCT GGTTTTTTTC GCGTGAAAG GAAAGCGCGT GGCTCCACAG 600
 30 ACCAGAGCGG TACTAGCTCT TTGCGGTTC TGTCCTATGT GCACGCGAAA TTTCATACTG 660
 TAGAGTGTGC CATCAGCTTC ACAGAGTACA ACGGTAGG 698

(2) INFORMATION FOR SEQ ID NO:757:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1490RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:757:

5	GATGACCTTC CGATACTATG CGAGCGCTTC ACGACATCCA AACTGAAGTC GTTCGAGGAC	60
	CTGAGCCGCA TCCAAACGTA CGGTTTCGCG GGAGAGGCAC TTGCCAGCAT TTCTCACATT	120
10	GCGCGACTAC ATGTGGTGAC GAAAACGAA GAGAATCAGT GTGCATGGAA GGCTGTCTAC	180
	GAGAATGGG TAATGGTGG GGAGCCGAAG CCGACGCCAG CCAAGSATGG CACGACAATC	240
15	CTGTACAGG ACCTCTTCTA CAATGTGCGG TCAGGCTGC GGGCGCTGG ATCTCCAAGC	300
	GAAGATTTG CGAAATAGT GGATGTGGTC GCCAAGTACG CAATCCATTG GGATGGTGTG	360
20	GGATTITGTT GTAAGAAGTT TGGCGAACA CAGTACGGT TAAATGTACG TGGGACTTCT	420
	TCAAATCAG ACAAGATACG GGCTGTATTT GGTGCTCCAG TCGTTGCCAA TTTAGTTGAG	480
25	GTAGATATTT CTGCAGACC TGAGCAGGT CTTACATCCA GTTCGGCCA GATTACAAC	540
	CCAGACTTTA ACAACAAGAA GTCTATACCT GCTGTGTTTT TCATTAAATAA CCGCTTGT	600
30	TCCTGTGATC CTCTGAGCG AGCCTATCC CAAGTTTATC CAACTTCTTG CCGAAAGGTA	660
	ACAAACGGTT TATTTACATG AGTTTACACA TAACACCGGA GAATGTGAT GTTAATGTGC	720
35	ATCTTAC	727

(2) INFORMATION FOR SEQ ID NO:758:

- | | |
|----|-----------------------------------|
| 40 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 728 base pairs |
| | (B) TYPE: nucleic acid |
| 45 | (C) STRANDEDNESS: single |
| | (D) TOPOLOGY: linear |
| | (ii) MOLECULE TYPE: DNA (genomic) |
| 50 | (vi) ORIGINAL SOURCE: |
| | (A) ORGANISM: PAG1490UP |

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:758:

5 GATCTCAAAG ACCCAGTACG ATCGGGTCAT GGGATACATA AACCACGGAA TCAATGAAAA 60
 GCTCGCTTAC GAACAGTTTG GATCTGTACC GGAGAAGGGC TACTATATTG CTCCACAAT 120
 10 ATTTCTGGAC GTTCTCAGA GCTCGAGACT CTGGCGTGA GAGATATTGG GCGCTGTGGC 180
 CGTAGTTCGG AAATTCAAGG ACTACGATGA AGCTATTGGT TAGGCTAATG AACTAATA 240
 15 TGGGCTGGCA TCTTGCGTTT TCACTGAAAA CATACGGGTT GGGCAGGCT TTGTGGTGA 300
 TGTCGAATCT GGCCTGTGT GGGTTAATTC CTCTAATGAT GAGGAGGTGG GAGTGCCTTT 360
 20 TGGGGGGTTC AAGATGAGCG GTATCGGAAG GGAGCTGGGG AAGGCAGGCC TGCAAACTTA 420
 CCTCCAGACT AAAGCAGTAC AACTGAACCTT TGCTTAGATA GAGCAACTCA TATATTAGAA 480
 25 TCACTTCATA CATCAACTAT ATATCAATTAT GTATATGACT ATGCCAGAGG TGTAGTGGAA 540
 CCACATTTTA TCACGTGATA GCGGTTCGCG GGTATCCCG CCAGTACCTG CGTTGCAGAA 600
 30 CGCGGGGAC ACAITCAGCA GGTGCTATAT ACAGTTGTGG AGGACAGTAT GGCACGCACT 660
 ACCATTATAG CAAGTAAGCC GTGTGCTGTT TGCATAAAGC GTAAGGTCAA GTGCGACCGG 720
 35 CTGGTTCC 728

(2) INFORMATION FOR SEQ ID NO:759:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 45 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

 (ii) MOLECULE TYPE: DNA (genomic)
 50
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1491RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:759:

5 GATCATCTCC GAATAGGTCT CCGGCACGAC GGACACAAAG CCGCGGTCCG AGTCACTGCC 60
 GTCTGTCTGG GCGGGTGGGA AGAAGGAGAA GATGAACGAC CCGGACTTCG ACTGTGCTTC 120
 10 CGAGCCACGC TCCTGGAGCA CCGTGTCCAC CTTGACCTGC ACCAGCGTGC CAGGACACGA 180
 CAGAAAGTGG TCCTTATTTCT CAGACAGCTT GTTCACAGCT GTAGGCTGGT AGTCCACCAG 240
 15 CCGGTCCGCC GCGGGCGTGG CCCCCTCTGG TCCACCACGG ATGTGCTCTG TGTACACGAC 300
 CGTCGCGTCC ATGTGCAGGA TCGAGCGGAC CCGCACTGCC GCGCGGAAGG TGGTGGAGTC 360
 20 CAGCGATAGG AACCGGGCCA GAGAGTGGGA GATCGATGAC GCGCGGCAGT ACGCCAGCTC 420
 AAATGTCTCC CGCATCAGGT AACCGCGGAA GATCATGTAC GAGTGTCCGT TCCGGTATTG 480
 25 CCGCTGCATG AACATCGTGG ACTTCAGGTT CGTGTCTCTC ATCGACACCA CCGCGCGCGG 540
 ACGCAGCTGG CCGCGCGTGG CCGCGGAGGC GCGCCACAAC CCGTGGATCA TCCCGGACTC 600
 30 CTCGCGGTA GCGGGGTTCG TCTCTAGACT CTCGCTCTGC GCGTGTAGCT TCTTGGCGCT 660
 GTTGTGGCTC TCCGCGCGCC GGAAGTCCAC CCACTCTCTC TGGTCTGGG GTAGCA 716

(2) INFORMATION FOR SEQ ID NO:760:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1491UP

(xii) SEQUENCE DESCRIPTION: SEQ ID NO:760:

GAUCTTGAAC AAAAAGTAGT TTGTTATCTT CCAGCTGCGC AGTCTCTTCC AGGGTTTTAC 50
 TTCGATGCT TATTAATACT GGTTCCTTAG ATGGTTCTTG ACTTTGGCTA TAGGCCATTG 120
 GTTCCGCGCA CTGTGAAGG TATGCATTGA GAGTCTCTTG GGTAGAAGT GTGGTCTTCC 180
 CTGTAGTTTT AGCAGCGGC TTGGCGGGA CTGGTACATC AGGCTGAGGT AAAATCTCGG 240
 CTGGCGTGC AGGTCTATT TCTGTGGGTG GCTCTACACT AGGATCCAAT ACTTGGGGC 300
 TACTAGTATC GCATTGTCA ATATCATCTA TGGCCAGAT GACAGAACTT TCTCTTCCA 360
 TAGGCTGGA GCATGCAGTA ATCTGGAAC ATGTGGTAGT ATTATGTAGG TGATGCTCTT 420
 CGATGTCCC AATCAGCTCC TGGCTGGGAA CGAGTTTGGC CTTTTGACC TTCAACTCGG 480
 AGTCTTGATG TGGACTGGC AGTGACGTA AAGATTAGG CAGCATGAGC TCTGTCTGT 540
 TAAAATGCCC GTCCAGTTT TCTGCTAAAC TTGGGAGGAC ATACTCTTCA TTGTGAAGCA 600
 ATACAGTCTT CTATCCGGA GTCACATTCA CGTCTACAAA CTGCGGGAG AGCTCAAAAT 660
 TTAGAATAAT GACGGGATAC TGGAGTTGT TGAAGCTTCG ATATATGTCA TTCAACACT 720
 TCAGGACTT 729

(2) INFORMATION FOR SEQ ID NO:761:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 610 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1492RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:761:

GATCTACTTC TCCAACAACG ACCTCTCTGTG GTCCAATGGC TACCCOGTGA ACCGCTTTGG 60
 5 CCAGGGCGGG TTCCGCATGC TTATCGAGCG CTTGTACGGC GAGCTCAACG CCGGCTACAG 120
 CCTGGCCCAT ACCACCTACG GCAAGCCCAA CCGCATTTGC TACGACTATG CTGCCCCGGT 180
 10 CCTGGCGGCC TGGTCCGGCC TCCAGACCGC ACAGCCGCCC GCCACGGTAT ACATGGTTGG 240
 CGACAACCCC CACAGCGACA TAATAGGCGC ATACAACCTAC GGCTGGCGCA GCTGCTTGST 300
 15 GCGTAGCGGC GTCTATCGCG ATGGAGACAC GTTACCATGC CAACCGACCC TCGTGGTGA 360
 CTCGGTCTTG GAGCGGTAA CCGCGCTCT CCAGCACTCT TCACATTAC TTCTATACTT 420
 20 TTACGTCTTC TATATACCG GCTCGTCGT CCGCAGATGC CTAGATCTGA ATCTTGGCA 480
 CCACAGTTTG CTCCTAGGC AACTGTCTG CGTTGCCCG GGCATATGC TCGTGCACG 540
 25 TCGGAGCCC GGGCAAGTA TGGTTTTCA TCAGCCGGTG GCGGACAG AACTGGCGT 600
 CACAGACTG 610

30 (2) INFORMATION FOR SEQ ID NO:762:

(i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 553 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

45 (A) ORGANISM: PAG1492UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:762:

50 GATCATGTTG GTGGCTCCT GCGTGGCTG CCGGTGAAG TTGGGTTTG ATTCCGCGAC 60
 GAGCGCTGC GTGAGCGGT TGATCTGCC CAGTTGCC TCGAGCGCG AGGCTTGTA 120
 55

CTCGTGGGCC GACAGTGGT CGTCTAGGGA GAGCTGCTTC GAATTGGAGT TATACTGGAG 180
 5 CATTGGTGAT CTGCTGTGTC GCAAGAGTGG TGGAGACGT GTTCTTTGGC CTGTTGGCTG 240
 AACAAAGCAC TCCGTGTTTT TCATGACGG CGTGTGCCA GGAGGGCAGA CCGAGAGAOC 300
 10 GAGCGTCAGG GCGCGCGGGC AGGGACGTAG GCGCTGCTC CCCACTATGT AATGCTGGAT 360
 ATGAAGAACA GAAATACTAG ATAATATATT TGTATTAGAC AGTGTGCGG ACGGGCAGAG 420
 15 GCGGGGTTC ACAAGTCCG ATGCTCTCA TCCGGCAAG GCAATGCCGT AGCGGCTCC 480
 AGCTCTGCT GGTACTGCTG CATCAACTGC TGTCCCGCT GCACTCTGG AGGGGCTAG 540
 20 GCAGGGAGC CAC 553

(2) INFORMATION FOR SEQ ID NO:763:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1493RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:763:

GATCGAATAA AGTAGGTTTG GCGCTGACCG GCATCACCG CGGACGTAGC GGAACAAGT 60
 45 TCCCCGTGTA AATGTTTGG TAGTCGATGA AGGTATTAGT ATTCATCTTC TCCAGCAAAG 120
 ACAATTGATA CTGTTGGGCG GCGCGGAAG AGTTACCACT GTATTCTGCC AACGCTGCGA 180
 50 CGCTTCGGCA ACTAGATTGG AGTGCCCTCT GGAGCTCTGA AACATTATCT AGGATGTTGA 240
 ACCGATOGAA AGCGGTGTGG CCGGGCATAG CGGACATGGC AGTTCTCAGA TTCTGCATAG 300
 55

AACCGGCATA TAGAGCCAGT GCTCCTGAT GCTTGGCTTC CTCTTGGTAA AGGGGAGOGA 360
 5 GCGCGCGGOC TACAAGCTGC GCACGGTAAA ACACCTTGAC AAGCTTCAGA TATGCAGTGA 420
 GCTCATGCTC TGAGTAGACA CCGGGTAGAC CCATAGCCTC CTCTGCATGG GTGATTATGT 480
 10 TGTTCATGAC GTGGTTGAGC TGCTTGTACT TGTGAAGCG AGCGGTCTTG CGGCTTCTT 540
 GCCATTCGAC CCACAGAGGT TGCAACAGCG CAACATGCGG GCCCATGCTC GCGCACAGT 600
 15 AGTTGAATTG GAGGTAATG AGCAATATCT GGTGCTCTC TCGTCATAG TGCACACCTT 660
 CCTCTGTCT GCGCTCATT GACTGCTCT GGCATCAAT TGGCGCTC CACTTCAGT 719

(2) INFORMATION FOR SEQ ID NO:764:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1493UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:764:

GATCATACTT ATCCACCGGT CAAGCCAGGT CTCAATCTTG ACGATGAGCC AGCGGGGCGG 60
 45 CGTGGCCATC TGGAGCCAGC GCTCCGGGAA GCCAATTAGG TACCTTAGAC CAAGCCCGAT 120
 TAGGTGGCGG ACAAAGCTGG AGCGGGGAT TAGCAGCGTG ACAAGTACCA GGAACACCAG 180
 50 CGGGATATAT AGGGTCGGCA TCTTCAGACT TGGAGCTCG TAGTGGGGGC GGAAGCGCGC 240
 CTCTGCACT GCGAAGTAGC CACACAGGT AAAGCACCAC CCGCTCGCC CGCTTAGTA 300
 55 AACGTTGGG TACAACAACA TGCCAATAA GCAGTACAG AGCGCGTCA CAATGGCCAG 360

GAGGTGAGC GTGATTCCCG TAAACACCGT CCGGTGTGAC GCTTGAACA TCGACAGGG 420
 5 CACAAACAGC GACATCAGAT TCAACAGCAA ATGGAAGATT GACAGGTCCG CCAGTGGATA 480
 GAGGGAGAGC CCGGTGAGT GCAGCTTCTT AAGGGCCCCC GGATCCAACA GGATCTTCTC 540
 10 GTTGATTGGG AACACCCAAT TCAGCACATA CACAAGCGTA AGGGAACACC GACAAGCCTG 600
 CAGTAAGAGC GCGCGCTTA TGGACCCCGG TCGTAACAT CGACTTCCAA TCCATCTTGC 660
 15 TCAATCAAAG TGGCAGTTTG CTTGGGGGTG GCAGTGGACT ATGCTCGCC AGTTGCCCAT 720
 CAAAAC 726

(2) INFORMATION FOR SEQ ID NO:765:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1494RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:765:

GATCTTGGTT CGTGAAAAC TTGCAGTCT TCATGAGCTC AAGAATGGC TCTGCATCTA 60
 45 TTCTGTCCGG TTGGATTCTG CTTCTCTTAT AGTCTGAAT CATGGGGCA AAAGGGGGG 120
 GGTTCAGTC ATGACGGGAT CGGCCCTTAT AGGACTTCC TCAAGCCGC ATGAGGCTCC 180
 50 GCCAGCCAT TTCTCAATA ATATTGACAA GTCTTGGTT TTCAACACG ACCTTGTTCG 240
 CGAGACTGTG GAAGTGTTC ACGTCTATCT GCTCAAGTAT TTCTACCTT TCTCAGCG 300
 55 ACCATCGCAA GTTCAATCT GCTCTTGA ATGCTCCAT AAGCTTTTCA TTGATGTTAT 360

CCACTGCTTT ATTGTCAAG GAGAGGATTA GTATTTCATT AGGAGCTACA ATCCCTTGGT 420
 5 AAACCAGGTT GTAGACTTTA TCCAGTAGTG TCACGGTCTT GCCAGACCCA GGTCOCGCTA 480
 CCACATTGAC AGTTGTACAA GGCTCATATG GATGTGTTAC TACTGTGAT TGGGACGTG 540
 10 TCAGTGCTTT CATTGATGTA TGATACATGC TCGAGCGTG GGAAGGAAA TAAATTGTTG 600
 AATTTGCTT TTAAGATACT CAAAAGAGAT GAGATAACCG CCGCAAGGC GGAGTAGAAT 660
 15 TACAGCAGCT ATTGAATATA TTAGTTTAT TTATCTGGCT AGCTTAACCA CTAGTGT 717

(2) INFORMATION FOR SEQ ID NO:766:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 606 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1494UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:766:

GATCCTTTEAG GGCATGCTCT CCAAATTAAC CGTGCTTGGC TTCAGTAGCT CAGTCGGAAG 60
 40 AGGTCAGTC TCATAATCTG AAGTCGAGA GTTCGAACCT CCGTGGAGC AAGTTTTTTG 120
 CTCGGGAAA TAAGTATTTG GAGCTGGACT GAAGGCCAA CCTATGCAGC TTTGCTGGTG 180
 45 CGAAGTGTC ATTGATGCT GCGACTATG TCTATATATC TTGGGGTCT TGTCTCTG 240
 CTGGGAAGA GGAATTGGAT TCTTGGGCT GGTCTGCAAG CTCTGCTAGC TTCCTGGCG 300
 50 GCAGAACACT TTCAAAGGC TCTTCCAGT CATGGTTGTC AAAGTATCTG AGCATGATCT 360
 55 GGATAACGTG GGTGCTGGTC AGCACCTTCC TGCCGCATAG CTGATGTAC TCTCCTATTG 420

GTAGGCGACG AGTAGGAATG CCCAGTTCTT TGGCCTTATT GTAACAGAGA GCTTGTGGC 480
 5 GGTTCCTGTC CACAATGCCG CCCACTATAT ACGTCGTACC GGGTTCAGC GTCTCCAGC 540
 TCTCATCACT ATCTGCAGTA AGGTAACTG CGTTCGTAGT TCGAAGGGGG GATTGCTCTG 600
 10 TGAAT 606

(2) INFORMATION FOR SEQ ID NO:767:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1495RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:767:

35 GATCGAATTA GCGGGTTTTA ATGAAACATA AGGAACGAGG TCTAAATGCG CAACATCCTT 60
 GAATGCAGTG CCAAGATGTA TCGGTTCTTT GGTAAAGAAA ATTGTACCAT CGACATAGTT 120
 40 AATGCCACAT CCGATCAGT CGTCTGACC ATAGGGCTTC GAGTACGACT TGAACAAAGA 180
 GCGGCATTT ATGTAACTG CCGACCGGTT GTAAATGTAG ACATCCTTAC CAGTCTACT 240
 45 CTGTTGGGAA GTTGGGCTGG AACCTCAAA AGGCGCTCTT AATATGTTGG AAGTTTGGCG 300
 GTTCAAGGCA GAAATTCAC CCGGTCCTT CGAAGGTGGA TCGTAGTGT TTGCTTGGC 360
 50 AGCATTTGAC CGACTTTTG ACCAGTCTT AAATCCAATA TTGATATTGC AGGTTTGGC 420
 TGAATGGCG CTGGTCAACG ATAGTACCTT AATTCATAG TAAAGATAG CCATTTCTT 480
 55 ATGATTAATA CAAGCATTCG CCCAGGTGA AGCCACTGC TGCTTCTGGT TATTAACGA 540

AGTCCGTAGC CTATTATTTA CAATAGGGCT GTTGTCATAG CCAGAGTAGA GCTGCCAGTT 600

5 GGGTTTAGC CGCAAGTTTG TGAACCGTC TGTGAGACC AAACTGAGT TGTTCGACTG 660

TGTGGTCCAG AGGTGGGGCA AAAGGATACC TATCGAGGAG TATACGTCTG AGAAA 715

10 (2) INFORMATION FOR SEQ ID NO:768:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 706 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1495UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:768:

30 GATCAGCCAA CAGCTGAGTT CTGATTGAT GAGAGCTATT AGTAACTTT TTGTGTTTAC 60
GGTGCTGGTC CTGGATGGT TACAGTACTA CTGTGGAGGC TACGGCGGT GCCCGGGCA 120
35 GATTGCAGTG ATAAGCCATT ATAAGTGGC TTGCAAGTAC GCGCGGCAG TACGGGATAA 180
ATTAGGGAAG GCCAGCGAGT GGTACGGGC CAATGCGCT CGCATGTGT CGGTGGGAG 240
40 CCGGTGGATG CAAGGGAAGG TCATGCCCCA CCGACGAAA GTATCCAGT GGAAGGAGAA 300
GCATGTACAA CCGCGGATGC GCGAGCTGG CCGGACGGG ATAGTAACAG CCGCGGTGGC 360
45 ATGGAATGTC GTACAGCAGT ACCAGGGCG GCATGTGGTG CCTCTGACAG GGCGACTGCT 420
GGGAAGTGT CCGTGTCTG AGAGGTGGC CGAACAAGCT GCGCGGGCT GGCAGTGGCT 480
50 CTGCAAGCAT GCTGGGGGC TACCACAGCA GTACAGCAGC AGTATCCTGC GTTGTGGCG 540
CATATGGGG GCATATGGCA GCGTTTGCAC GCGGCTACA ACCGATCTA TCTGGACTTG 600
55

GGCGGCCCCAG TGCAGGAGAA GACGTCCGAG GACSCAGTGC GGCGCCCCGG GGGACTCAKT 660

5 ACATCACATC CACTATCACA ATGACCATGA CTCCTCGAT GAACTC 706

(2) INFORMATION FOR SEQ ID NO:769:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1496RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:769:

30 GATCGTTTTC TGTCAAACCG CAGTCGGGTT CAAGGAGTAC GTTGAATTTA GCTCTTCAT 60
 TCAACAAGTC TTCCCCAGTT TCACAATGT TGTGATAAT GAAGGTTTA AAGTCTAGAA 120
 35 GCTCTTCTTG CGTGAAGCCG TTCTGGTGAA GAATCTTCAG TTGTTGCAGT ACGGTGATT 180
 TCCCGCTCTC GCCAGAACCC AACAACAAAA CCTTGAGCCG GCGATTGCTG GCACTUGGTT 240
 GCCCCATTGA CCGTGGTCCA GCACTGCGG TTGTCTGCTG ACTGTTCCCG GATACACGG 300
 40 ACGGTTTCTT GCGGCCCCCT GTAGGCGCCG ACGTCTATG ACTGGGTGAC GTCTCAGTT 360
 TGACTTCTGC ACGTAATCT ACGCTCTTG CTCCTGTTT TACCTTCTGA GAAGCACCAT 420
 45 GTCTGTCTG ACGCGCTTT TCCGGTGTG TTGCTGATC CTGTCTTTC GACGCGACA 480
 ACCCATTTAT GTGGGCTCT ATATCCACCA GTACTTGAG CACTCTAGG CCTGGCTTTC 540
 50 TTIGAAATAT TACCGTCCG GCAAAAGCCA CTATAGCC CTGATCAATG GATTCAGTG 600
 55 CTAGAGGCTA ATTAGGCTG CGCTTGTCAC TTCGGGGCC ATCATTAT ATTATAGCA 660

AAGTAGGTGC CAACAGAAAA AATCAGCCCG CCTCCTTTAT TGATCAGTG AAGAAATCCA 720

5 CATGAACAAT CAGTGAACA CACATTTGG 749

(2) INFORMATION FOR SEQ ID NO:770:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 754 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1496UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:770:

30 GATOGAAGTC AATGCCAGAC TATCTGTTT TTCTGCATTG GGTGCAAGG CAACAGGATA 60
 CCCCCCTGCC TATACTGCCG CTAAGATTGC TCTTGGGTAT ACATTACAG AGTTGCTTAA 120
 35 TCTGTGTACC AAGTGGACGG TGGCCAATT TGAACCTCA CTGGACTACA TTGTGGCCAA 180
 GGTGCAAGA TGGGATCTCT CCAAATTCA ACAAGTGGAT AAGACTATTG GGTCTGCCAT 240
 40 GAAGTCCGTA GGTGAAGTGA TGGCGATCG CCGGAATTTT GAGGAAGCTT TCCAAAAGGC 300
 TTTCGTCAG GTTGATCCAT CTCTACTAGG TTTCAGGGC TCTGACGAAT TGGCAGACCT 360
 45 AGATGAAGCC TTGCAATTTC CTACAGATAG AAGGTGGTTG GCTGTGGGAG AAGCGCTAAT 420
 GAACAGAGGT TACTCTGTGG AACGTGTACA CGAGCTTACG AAAATGATA GATTTTTCTT 480
 50 GCACAAGTGT ATGAATATTG TCGAATGCA GAAGCAATTG GAGACCTAG GATCAATAAA 540
 TGGCTAGAC GAGGTTCTGT TGGGAAGGC TAAAAAGCTC GGCTTCTGTG ACAAGCAGAT 600
 55 TGCAGGGGCT ATTTCAGATG ACCTCTCTGA ATTGGATATT AGAGCGCTCA GAAAAAGCTT 660

TGGCATTTTG CCATTGTGTA AACGTATCGA CACCATGGGG GCAGAAGTTC CTGGGGTAAC 720

5 CAACTACTTG TATGTTACCT ATAATGCGGT CAAA 754

(2) INFORMATION FOR SEQ ID NO:771:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1497RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:771:

30 GATCATTTGG TCTTCTTGGC CTCTACAAAC TGTTGAATATC ATACTAGACC TGAAGTCAGG 60

TAGGGAGCAA CCCAACCCCTT CGGTGGCAGT AGAGGCTGGC AAATCCATTA AAAAGACCGA 120

35 TTGGAATGGG AACTCTAAAA TTGAACTAA GCAATTTGAT GAACTCTGCA CAGTTCTTGG 180

TCTTTCCAGT ATTGACTATT ATAACCTTAA GAGAAGGTAT CGAACTTACA AATCTCTGAA 240

40 AAGGGGGACT ATTGAAGATA TATTACATGT TGTGTGCGAC AGAGATCTGG CGGAGGGCAT 300

TGTTACTCAT ATCCAAAGAG AATCTGAGCT GCAACAATAT GAGGAGGATG GGAGGAATGA 360

45 GGTATGAAAT GTTCCCAATT TGGATTAAAG TATCAGGTGG TCAAGATATC CACTATATGG 420

TGCTATTAAAC GGCATGCAA GTGTAGAATT AACCTAAAGA ATATGTTATA TATATATATT 480

50 ATAAACTACA AACTAAGGGA CGCAATGAAA TCTAAGTGTG GCAAGGTTAG CCTTAATACC 540

GGTACTTGA TAAATCTCC TTTTTCAAAT GATACAAGCG TCCCATTTCA AACGCCATGC 600

55 CAGATCACT GCGTGGATTC ATCATGATTG TGAFTGGGT TGCCTCAGTC GGAAATAAAT 660

TAGCAATACT CATTATAACC TTGGGACCT CCAGCGGCTT CTCTGGGTA GGTCAAATG 720

5 AGGCAATTG CATACTCTTT 740

(2) INFORMATION FOR SEQ ID NO:772:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1497UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:772:

GATCCTGTCA CAGCGGGCGA CGCCGAGGC CGGTAGGC GACTGCAGG AGGAGTGAA 60

GGTAGGAGGG TCCAGGCGG CTTTGGCGA TCGGCGTTG TTGGGGCGA TGGGCGGGG 120

CGCGCCGAG GATGGCGAG AGGCCCCACA ACTTGGTGCC GGGTGGGC CCATGGTGAC 180

GCCCCACTT CGATGGAAC CTTGCAGCC GCAGGCGTG CCACAGCAGG CCCCCACTC 240

GCACAGCCA CAGCAGCGG CCGAGAAGG AATGCATG CTCCAACAGC TGCACGAAGA 300

GCAGAAGAAC TATTCTTAAG TGGACCGCA ACCGTCAATT ATGCAACAGC AGCCACACAT 360

GATGCAGCAA CTGCCGCAAC AACGGCTCG GATGCAGCAA CTGCCGTGC AGGGCCAGTC 420

CGAGACCGG AAGCCCCAG GCAGTTCTC AATGGTGGT CCGTCAAC ATAGGCAGCT 480

GTTCAGAAC CTOGACCCA GCATCCAGAA AAGAGTATCA CAGGATCTGA ACAGCAAGCA 540

GTATGAATA TTGTGAAGT CTTTCATGA ACATGTGAAG CGGTGAATA TTCCGTTTAA 600

CCCAACCTG AGATAGGCGG GACCGGGTG AACTTATTC TTTTATACAT GTTGGTACAA 660

AGAATGGGCG GGGCAGATAA TATCAAGAGG CTGCAGCAAT GGCAGGCTT GGCAGAAAAA 720

5

(2) INFORMATION FOR SEQ ID NO:773:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1498RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:773:

GATCACTACG TGACATTCCG TAAGGAATGG CACTCCAATG CCGACAAACC TCTTCTTACC 60

30

CCGTGACTTA CCGGATGTG CCAACTACCA CACATCTGGC CCAATAGCCC AGCCATCTGG 120

CACCAATGT ACTGGATATC GTTATTACAT GTCTACGGCC TCAAGTGCAT CCACCATCTG 180

35

ATATCATGTC TGCTCTAGGC TATATATTTC GGTGCGGCC ATATCTACCA GAAAGCACCG 240

TTTCCCGTCC GATCAACTGT AGTTAAGCTG GTAAGAGCCT GACCGAGTAG TGTAGTGGGT 300

40

GACCATAAGC GAAACTCAGG TGCTGCAATC TTTTTTTTTT CCTCTCTCTG CAAGCTGGCC 360

GCCAACACAG GTCACCCTAG TATGGCTCAC ATGCAATTCA GATATCTACT TCTGACTGGT 420

45

CTGGTGGGCG ATGGCCATCA TTGCAACAG TGTGCTCGCA TGGGACTTTA ACGACCTCC 480

GATAATAATC AGAGATGTC TACTTATAAA ACATCAGGCA CAAAAGAAA GGTGCAGCGA 540

50

AATGGTATAT ATAGGTCTC CAGATCCACC CACCGGTACC TCTACTTGG CGTATCTGC 600

GTCTCGGTGG CGTTGCCCGC TGAGATGCTG TGGGCGCGAA ATGTACTCTC AAATGGGCTT 660

55

GTTCAGTGGC CCATACAGCT CATTAAAGCTC AGTGGCCCCG ATGCTTAGTA GTA

713

(2) INFORMATION FOR SEQ ID NO:774:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1498UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:774:

25	GATCTCTTGG TTCTGGCATC GATGAAGAAC GCAGCGAATT GCGATAAGTA TTGTGAATTG	60
	CAGATTTTGG TGAATCATCG AATCTTTGAA CGCACATTGC GTCTCTGGT ATTCCAGGGG	120
30	GCATGCTGT TTGAGGGTCA TTCTCTTCTC AAACCTCTGG GTTTGGTAAT GAGTGATACT	180
	CGTGCTAAG ACAAGGTAA CTTGAAAATG CTGGCCATGG GCGGAACITG CCGGACTGC	240
35	GGCTGAGCT AGTTTCTACA CTGGTATTA GGTTCGACC AGATGTGGA GTGGAGCTGG	300
	CGCTTGAAGA AGTACGACA AACAAAGGCT TCCAGGCGAA TAGTATCCG AAAGTTTGAC	360
40	CTCAAATCAG GTAGGATTAC CCGCTGAAC TAAGCATATC AATAAGCGCA GGAAAAGAAA	420
	CCAACCGGA TTGCTTAGT AACGGGAGT GAAGGGGCAA AAGCTCAAT TTGAAATCTG	480
45	GCGCTTCGG CGTCGAGTT GTAATTGAA GAAAGTACCT TGGTGTCTAG TCCTGTCTA	540
	TGTTCTTGG AACAGGAGT CATAGAGGT GAGAATCCG TCTGGCGGG GTCTAGTGC	600
50	CATCTAAGT TCTTTCGAG AGTCGAGTTG TTTCGAATG CAGCTCTAAG TGGGTGGTAA	660
	ATTCCATCTA AAGCTAAATA TTGGCGAGAG ACGGATAGC	699

(2) INFORMATION FOR SEQ ID NO:775:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 742 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1499RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:775:

GATCAGCTTC ATCGATTACC CAGAATTCGG CTTCACAGC AACGAGGCCA CCGAGATGCC	60
CTTCGGCTAC GTACTGGAGG CTCTGGCAG GCCATTCTG CCATCAGGCA TGCTAGAGCT	120
CATCAAAAG GACTCCGAAC AGAGTCTGGA TGACTACTT TAGGCTGTT GAACAACAGC	180
TTATAGATGA TGTATATATG CCGTCTGTC GCCACAGACT GGCATGGAA GCCACCAAC	240
CTAAAGTGA TAGAATCTG TCAACAGAAT CAGTCTTTT CCTCTTCAG CATCTGCCA	300
AGCAGCTGCT CGAAATCGAT ATCATCAGAA GTGGTTTGT CAGGAGCAGC TAGGGGGGC	360
TGCTGGAGG CAGTCTCTT AGCTTGTAC AATGACACAC CCCCAGACG CGTGAATAGC	420
GTGCCAAGCA CCAAACATG AGGCTGAAC GCTTTCCAA AGATGTTGTA AACTTGACCC	480
ATUGCTAATC ACCGAATCCG CTGCAGATAT GGGTCTGAT GGTCTGGTGT GTAGCGGTGT	540
GCATTTGTGA GCTCTATTG GCGAGGAGG CAAGTCGATC TAGAGGGCTA CAATGAGGTG	600
TTGGGTGTT TGTACGGTA CCGAGGAGT AGCAAGTGAT CGTTCAATA TCTGTACGC	660
CCCATGAACA TCTATTGGT GCATTGGGT TGGAGCAAG GCGATCATG GAGACTAACA	720
CTCAGCAATT TTGCTGGCG GA	742

(2) INFORMATION FOR SEQ ID NO:776:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1499UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:776:

```

GATCGCAATG GAGAAGGTAA CGCTGCTACC GAAGGTATC AGTGTTTGA ATAAGGCGAA      60
CCTTGCGAGC ACAATTTTGG ACAATAATTT GCTACAGAGT GTGGCGATCT GGCTTGAGCC      120
ACTGCCGGAT GGATCCCTAC CATCCTTGA GATACAGAAG TCTCTCTTTG CCGGATTGA      180
GAACCTCTCC ATAAAAACAG AGCACTTCAA GGAGAGCGGA CTGGGGAAGG TGGTCATATT      240
TTACACCAAG TCTAAGCGTG TAGAACACAA GCTGGCCCGG CTAGCTGACC GGCTGGTTGC      300
AGAATGGAGC CGCCCTATTA TGGGCGCTTC CGATACTAC CGGACAAGC GTGTCTTGAA      360
GATGGACTTC GAAGTGAGGA AGCACCGTAA GAAAGCGGCA CTTGATTCTG CCAAATCTAA      420
GAAACGGAGA AAGGCTGCAG TGGACGAGGA GAAACACAAG TCACCTTACG AGCTTGCCGC      480
TGGGAAGCGG AACAGAGCGG CAGCGCTGC GCAGACAACC ACGATTACA AATACGCACC      540
AGTCAGCAAT ATCTCGAAG TACAGACCGG GATCGGCACG GCAGGCGTGG CCTCCAGCT      600
CAACAACAAC GATCTGTACA AGAGACTCAA CTGAGACTT GCCAAGTCTA AACGGTCCAA      660
GTAACCGCTG TGTACTTCAG CTAATAGTAT TATAATAACG TTTAATGATA CTGAAA      716

```

(2) INFORMATION FOR SEQ ID NO:777:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 719 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1500RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:777:

GATCAGCTAA TGGCTGCTTG TCAAAGACCA AATCCTTCAC CCCTAGAACT TTTCCTAGAG 60
 CATCCATTCC GATAACCTAG GTGCTTTTGT GTCCTTAAAG AATATGGTT TAATTGCTT 120
 TCGGGACCG AGTAAAGGT TATGTAGCAT TTTCAAAAG AGCCTAATG GACACATCCC 180
 AGGATAGTAT GAATGAGAAA GTCCAAITCG TGGCAACATT GTCTAGTTC TTATAATTAC 240
 TGTATACAT CTACTGCAGA GTCAAGCATA TATACCAAT AATTCACCA ATACTAGCTC 300
 TTCTAAGTCT TCAGCTGATG GATTGCGCC AAGGGCGCC AGAGCTGCAG GTAGGTACCC 360
 ACACCTTCCA AAATCCTCAT GTGGTGAAT CTTATTTCTT TAATCATCTC CAGCGCAGG 420
 GGTCTTTAA TCTCTGCAA GTTCTTCATG ACACGGAAAC ATGTAGTGAT TATGTCCAC 480
 GCGAGTACC TTGCCCCAC AATTCGGTA AGTAATTGAG CGACTCATCA AGAGTAGCAG 540
 ATAGCAGCAT TTTCTTGATG ACCAGGGAT GCGGCGAGTC CACTATCTTA AAAAGTTGT 600
 CGCGGTTCAC TAACGTGAAG CCGGCGCGG TGCTCTGCAG ATTGTTGATG GCTGCGGCA 660
 TGTCACTTC CGCAGTGAAT ATCAGGGCT CCAGACCATC ATTGGTGTTC TGTACGTTT 719

(2) INFORMATION FOR SEQ ID NO:778:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1500UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:778:

GATGGGACC CCCCCGTCA CGCAAGGCC CGCAACCCG GAGGAGGAGA TCAATGGCTT	60
TGAOCTGAG GGGCGCCCC AAAAGAAGAC CAAATACTA TAGTAGTAGG TACATTGTAA	120
TACATGGCA AGACTTGGCG CCAGTTAGCC GCGCGCTCC CAGGTCTTCA CCAGCGCGGT	180
GGGTCCGCA GAGGTGCTCA GCAGCTGGCG GCTACCTCC TTGTAGACGG TGTCATGAC	240
TGCCCCGCA TGCAAGACG CCAGCTGGTC GGACACACT ACCTGGCTGG TCAGTCCAC	300
TAGTAGGCG TAGCGCGCA CATAGCGTTT GTCTCTAGG AAAGGCACC GTGCAGGAG	360
GGGTCCGGTG TTCCGGCAG GGAGGGCAA TCCCCGCTT AGAGCTGTC CGGCTGCTG	420
GGGTAAAG CTCACACTGT CATGAAGCC CAGCGCACAC ACCTCTCTC CATGCGGGA	480
AGTGCACAGC GAGGTACAC CACTCCGGTG GCGGTCTGC GTCTTCACA CTGGTCTC	540
GCTGGCGGC TGCTGTAGG CTGTACCAC TGGTCAATC CCGAGGTGT ATACCGCCC	600
GGCGAGACC GGCAGACG CGCTGATAG CAGCGAAAG TGGTGGCA CAAAAGCGC	660
CGGG	664

(2) INFORMATION FOR SEQ ID NO:779:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1501RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:779:

GATCTATTTA AATATAACAT ATTATTTATT TCTTTTTTAA AACATTTTAA ATTTAATTAA	60
TTATTTATTT ATTTAATTAA TTATTTTAT TAGTTAAGAT AATTTTATAA CTTTAATTAG	120
AGAGCTAAGG TACACACCCC TAATGCTTTC AGCATCTCTG TGGTACCACT CTAATTAAAG	180
AGTTATTATA TTAATGATAT AATATGTAGA TATTCAGTTT TGAAGTGAAG ATATAATGTC	240
CTAAAACATA TGTTTTACCA ATTAAACTAT ATCCACTAAC TTTTATTATA TAATTAAATA	300
ATTAAGAATA TTTTAAGATT GAATTAGAGG AGTATTAAAT GAATGAATAA GAGGTGGTGA	360
ATTTAATATA AACTCAATAG ATGATGATTT AGTAGTATTC ATTAAGAAAA TATTATTTGA	420
TTCAATAAAA TCAGGTAGTT TTATATAATT AATAGATTTA TTATTAACCT TATTAGTTAA	480
ACCATTTAAT AATTGATCAT AAATAATATA AAGGAATAAC ATTAATGATA TAATAGTTAT	540
TATAGAACCA AATGAAGATA CTAAATTTCA ACCTAGGAAT AGATCAGGAT AATCAGGAAT	600
TCTTCTTGGT ATACCATTA TACCTAAGAA ATGCATAGGG AAGAAAAATA TATTAAGACC	660
TAAGAAAATT AATCAGAATT GAATTGTGAT AATTTT	696

(2) INFORMATION FOR SEQ ID NO:780:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1501UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:780:

GATCAAATAA AAATAGAAAT TAGCTTAATG GTAGAGCATT CGTTTACAC ACGAATAATT	60
TGAGTTCGAT TCTCAAATTT CTAAATAATA ATTACAATA ATTAAATTT GGGTAAAAAT	120
TAATAAATAT TAACGTATAT AATAATTATA TACTTTATAA AATTACTCAA TGTTATTAT	180
AAATTTATTT CTTATCATTATAAATGATGT ACCTACTCCA TATAATATAT ATTTTCAACA	240
TTCACTACTA CCTCATCAAG AAGGTATTTT AGAATTACAT GATAATATTA TATCTATAT	300
GTTACTTGTT TTAGGTTTAG TTTCTTGAAT AATAATTATT ATTATTAAAG ATTATAAAAA	360
TAATCTTATT CTTTATAAAT ATATTAAACA TGGTCAAATA ATTGAAATTA TTGAACTAT	420
TTTACCAGCT ATTATTTTAT TAATAATTGC ATTTCATCA TTTATTTTAT TATATTTATG	480
TGATGAAGTT ATTTCAACAG CTATAACTAT TAAAGTTATT GGTTTACAAT GATATTGAAA	540
ATAIGAATAC TCAGATTTTA TTAATGATAA TGGTGAAACT ATTGAATATG AATCTTATAT	600
AATTCCTGAA GAATTATTAG AAGAAGGTCA ATTAAGAATG TTAGATACTG ATACTAGTAT	660
TGTTATTCGG GTTGATACTC ATGTAAGATT TATTGTTCAC GCTCTAGATG TTATTCATGA	720
TT	722

(2) INFORMATION FOR SEQ ID NO:781:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1502RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:781:

5	GATCGCTGCC AACCCCTGCT TGATCTCCAT ACTCATCTGG TTTTTCAGGT AGCGGGGGTG	60
15	GTGGAATACG GACTTGTUGA AAACGAACAC ATAAGAGAAT GAGGCCAGCA TCAGGTACAG	120
20	CAGCCAGCCA AACACTGTGG TCACCAAAAA CAGAGACAAG CTCTGCCGCA ACAGGCTGTA	180
25	TGGCGGCAGC ACGGACCGCA AAGCATGGCG GCTAACCTCG AACATAAAGG GTGCATACCC	240
30	ATATACCTCC AGCGGCTCTT CAAGGAGCCT CCGGAACAGG CCGGTGGCAT TTACCATCTG	300
35	CTCCTTAATC ATGGCTTGCT GCCAAGTCCC GCCCATCTTC GGGACAGCG ATGCTGGCAG	360
40	CAGTGTGGCA TACACATAGT CGAAGAAGTA CGAGTGGCAA AACTGGAGCA CTAAATCCAT	420
45	GGTGGGAGAA CGCTATAGAC TAGGAGAAAC AATTTTAGCT CTAGGTGCC TGCCCTCTAG	480
50	CGTGATAACA GATCCTGCTA CAGCTACTAA AGCCCATCTG CCGCTCTCCT CTGGCTTTTT	540
55	GCACTTTTAT ATGGTCCATC CCGGCACTGA CCTAACGTAC GCGGCTCTAT ACGACGCTAA	600
60	AAAATCAAGT TACGAATGCA CTATACGAAT GCGTTGAGCA AGGAACGAAT CCGTTTTTGA	660
65	ACGACGATAT CAGTGAACG AAGCCGCAAC GTTGGGGTGC CCGGGGCTTA	710

(2) INFORMATION FOR SEQ ID NO:782:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1502UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:782:

10 GATCAAAAAT ATTGAGCGCA TTGCGCGCTC TTTAGTGTAC TTGGGTGAT TATGGAGATG 60
 GCCAATTTC ATCGGTATTT TOGCTTACT CATAAGAGTA TACAGTGCCA ATTTCGGTGA 120
 15 ATTGAGGCGT ATAAACATCT GGTATGTCTT ATCTTCAGTT CTCTCTGGG ATTGCGCCAT 180
 CACTGGGATT CCATTCAGTT TCAGGCTGCC AGGAGTTGGA ACTAAAAGT GGTFTTTTGA 240
 20 TCTCTGAGA TCTCTGTTC CATCAAGGC AAGATAGGCA GCGTCTTTT TGTATGAATA 300
 TCGGTTGAG GATGTCTAC TCAGGTGG AAACTATAT TATGGTCAA TATATATTAA 360
 25 TGATAAGAC TTCTCTGAC TAACAGCAGT AACTCTAAT TGAAGTATTT GTTATTCCA 420
 ATCTTCATAC AGTATGTAC CTGTGTGAT TATAGATTTC GTTTAGGAAT TGGATCGTC 480
 30 TTTCGIGGCT GCGAGGTGAG AAGATGATA TAATAATATA TATATTATTA AATTATGGTA 540
 GSTAGGGAAT TGCTATTTGT GTCTAGTACT CGATGCCTTA TCTACAACIT CTAGTTGCAA 600
 35 CACATGATAT GCTGTGACC AAAAGCTAC GCGTTATTG ATTTTATTCA AGGTCAAGAT 660
 CATATATTAG CGTAATATCT GTGGAGGTC CT 692

(2) INFORMATION FOR SEQ ID NO:783:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1503RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:783:

5
 GATCTTGGTA TACATGTGCG AAAGCTCCTC CAAAATCTTT TGTCTCCAT CATGAGAGGC 60
 10
 TGCTACAGCT TTGAGCGCGA TAGAATTGGA AATACCATTG GAGATTGCTA TTAGTAGGAA 120
 GACAATATAA GTACCATCTG TCGATGGGGC AGAGGCTTTA TCAAGAAGGT CCATCAGCTT 180
 15
 GTTCTTGGAT ACAGCAGTCT CATTTAATAA TAATGCCTGC TCACCACTGG GCAAAAATTC 240
 AGAACATTG AGCAGTTCAG AGAGTGAGTT CGACTCAAAG TTTTGGTCA TTGTCTCTAA 300
 20
 CAAGACAAAA ACAACGTCTT TCTGTCTCTC ATGAACATCA TAAGCTTGA AAACCTGAG 360
 CAAAATAGTA TTGTCTCTGA TCACGTTCAA AATACCTCT AGAATTAATG CCTTCTTCCA 420
 25
 CAATAAAGTG TCAGATTAG GAGACAGAGT GTGATTAAAT AATGATAAAA TAACTTCCAA 480
 TTCCAATTCC AGCAATGTCA AATACTGAAC CTTTATGAGA AGTGTAATAC ATCTGGCGCT 540
 30
 ACGAACCACA ATTGCAAAAT TTTTGGATGA GGAAATGTAC CTCAATAGCA GCGGCACCGC 600
 CTTTGTTCGC AACAGAAATA ACAGATCTCG GTGTGTCAAA AATAATAATT CATAGTTCAA 660
 35
 TAAAACCACT TCTAGGAGCT CTAATCCATA CTCTCATTT ATGCAATTGC TATCCA 716

(2) INFORMATION FOR SEQ ID NO:784:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 637 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1503UP

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:784:

5	GATCTGGGCG CTTCGAAGGG AAAGGGGGGC CCCAATCCCC AGTCTATGTT CAAGAGGGCG	60
	AACAGCAGGC CGTCATGGCA TTCAATAAGC GAATGGGCAC TCGAGCGTTG GCACATCATG	120
10	TGCTGGATAG CATCATATAC TACACAGACA AGGTGGTGGT GAAGGGGCTT GGAAATTGTG	180
	CCGGAGCTT ACCTTCCAAG ACCTCTCGG CGACAAGGT CAGGGGTGT GTAGGAAAC	240
15	GCATTGGTCT CGAAGGCGCA AATGATGTCT TTGTATACCG CACAAAGAC CTGGTATTG	300
	ATAGTGAIGA AGATATAACC AGAACCTAAC TACTGTGTG CATAATTCTC ACACCGCTG	360
20	GTGCGGAACC GGGGGCATAC ATTGGTTTTA CACAAGAGGG GTTGATGCAT AAAACGGCT	420
	TTCAAAGTG GCAAGCGAGA GCTGCGACT GTCGTGCTT TTGGTGGGC GACTGTAGGC	480
25	AATGTGCCAT CCGTGCGGC TTCTTTTACG CGAGATCCAG TCTCGCAAGC CTGGCTGLAA	540
	CCAGAACACT CCGCTGAGC CCGCGACAGG TCCCTGTGG ACCAGGCAGG CAGCCTTGCA	600
30	TCTGATAGGC CGGATACTGG GTATCTGCCA AGAGAGG	637

(2) INFORMATION FOR SEQ ID NO:785:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 708 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1504RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:785:

55	GATCAATTAA TAAATGGTTT AACTAATAAA GITAATAATA AATCTATTAA TTATATAAAA	60
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CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

5 ATTGAGITTA TATTAAATTC ACCACCTCTT ATTCAITCAT TTAADACTCC TCTAATTCAA 180

TCTTAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240

10 GTAAACATA TGTTTTAGG ACATATATCT TCAGTCAAA ACTGAATATC TACATATWAT 300

ATCAITTAATA TAATAACTCT TTAATTAGAG TGGIACCACA AGAATGCTGA AAGCATTAGG 360

15 GGTGIGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420

AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480

20 GTGATATTTA AATAGATCAA AATTTCACA ATTTCAITTT CATTTAGTAC TACCATCACC 540

ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACITTAG CTTTACTAT 600

25 ACATGGTATT ATTGGTAATA TTATCCCTT ATTATTATCT TTATTAGTAG TTTTATTACK 660

AATAACTTTA TGATTTAGAG ATATTGTAGC TGAACITACT TATTTAGG 708

(2) INFORMATION FOR SEQ ID NO:786:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1504UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:786:

GATCTTAATT TAAATTTTA ATTAATATT TATAATTTAG AAATATATAA TCTAGAGATA 60

55 TATAATCTTA AAATCATAGG TAAATATACA TAAGATAGTA AGAATGAAAA TTAGTAAAT 120

AAATAGAAAA CCATAAGTTA ATTGATTTCAT AAAGAAAAAT GGAATTATTT GTGGCATCTT 180
 5 AATTTTATT ATTAAATTGA TTATTATCTA TTTAACATAA AACATTTTAA AATGTTATAA 240
 AATAAATAAG AAATTACTTA TAGAATATTT ATTAAATAGT ATTTAATTTA ATTTTAATAT 300
 10 TAAATATACC ATTTTATTAT ATAAATAGAT TATTAAAGTTT ATTAATATTA AGTGATATAT 360
 AATTTAATTT ATATAAATTA TTTAATTTAC TTCATTGATA TATATAATTA TTAAATGTAC 420
 15 CTTTCATAAT ATTTATTTT ATTAGTCTAG TAATATTTCT ATTTAATAGT CTACCCTTTA 480
 ATTGGATATT ACTACCTACT AAATATTTAC CTAATAATAT ATTATTAAGA ATACTTAAAT 540
 20 CTAATAATTT ATTATCTAAA GATATAAAT TAATTAAATC TTTTATTTA TTATTTAAAT 600
 TATTATTAAT TAGTAAATTA TATTATTTA TTTTAATTAA CATAATTTT GATAATAATA 660
 25 TACATTATTA AATGGTAAT TATTATAAT TATCTTAAAT GATTTAATGA T 711

(2) INFORMATION FOR SEQ ID NO:787:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1505RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:787:

50 GATCATCTTT ATACCAATGG CTCCTGTTCC GTGTGCACCA AGTAATCAA AAGCGTGTGC 60
 CCCCCTGGTA CGCAGGAAGC ACTAGAACTA GCTGAGTAAA GCAACGGTGA AAGTCGATCC 120
 55 CTGATATATA TACGAAACCA GAGATACCTT CATACAAGG ATCTTGTTC TCGTGGCCCA 180

ATGGTCACGG CGTCTGGCTA CGATAGTAGT TACTTCTGAA ACCAGAAGAT TCCAGGTTGG 240
 AGTCTGGGG GGGAGGTCTT TATTTTITTT GTTCCCTCTT GTTTCAGCTT TTGTCTTAA 300
 AAGGAGCAGA AAGATTATTT TGCAGCTCTC TTTTGGGGCC AGCTGGCAAA AGCGAACTGT 360
 TGATTCACAA GCTTTTAACC TGTTATTAC CACCAGCAAC CTCTCGAATT TATCATGTCT 420
 CCATCAAATA AGGATATTGC TGGCCTAATT GTTGACTTCC TAACTAGTC CGCCAAAAC 480
 GTAGGAGAGG ATTACGAAGA TTCCCTCAAA GTGGCAATTG ATTGTATCAC TGAAGCTTTC 540
 GAACTTGGAC CAGGCGAAGC TGACACATTA GTTTCGGAA AGTGTGGGG AAGAAGCCTC 600
 TCTCAGTTGC TCACCACTGG CATGCTCAC ACCTCAGATG CAGGCGAACC GAAGGTAGCC 660
 GCGAAGAGT TGAAGAAGGA AGCTGAGGCC TTGAACTGG AAGGTAACAG 710

(2) INFORMATION FOR SEQ ID NO:788:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1505UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:788:

GATCAAGCTG GACAAAACT TCGTAACTA TCTGAACCTA CTGGAAATGG TTCAGGGGTA 60
 CGTGGAGCTT AACATGATG AAGATGTCTG GCGAAAGCTC GTTCAATTAA ATGGGAAAAA 120
 TGAOCTGAT AGAGTTCCAG GATATTATAT TACGAGGTCT ATCTCACTGA ACCAGCTTTC 180
 CACCAGTATA TATCTGAGG AGTTGGATAA GTTTAATCTA TCTCTGTCA CCGAGATAGA 240

AAAGAGGGTC GTGCAAGCCA CTGAGTGTTF CTGAAACTA ACATTAACAA ATAGCCATCA 300
 5 TGAAAAGGCG CGCATACTGA TATCAACCTT TCAAAAATTG ACAACGAAAA CTTCTCAAGC 360
 TACTTTGGAT CCAATGATTG ACCAGATAC CTTACTGGGT TTGATGGTTG TTGTAGTTTG 420
 10 TCGGCACAA GTTAAAACT TGAAGAGTCA TCTAGATTAT CTTAGAGATT TTGCGCAGAA 480
 TTGGATGAC GTAAAGTTTG GGCTCCTTGG GTATTGGCTA TCGACGCTCG AAGCGGTGGT 540
 15 CGGATATTTC GATATTGGCG GCACTCAAT TAACTTGAA AGATTGATCA CACCATGTCC 600
 AAGGAATAAG ATCTTCTGGA ACTTGATAGA GCAAGGAATT CCAATAAATT TAAAGGAACA 660
 20 TGAAGAAGTC CTCATATGCG GCACTCGTTC CTGTGAATCA TTTTGTCCTT ATGTT 715

(2) INFORMATION FOR SEQ ID NO:789:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1506RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:789:

45 GATCTACCGG TTCGGTATCC CCCTTTGAAA ATAAATTCTT TGTCCTTTGC ATGCAACTAA 60
 AATGGGATGA AGATGCAAGG GATGTTATTT TTAAGTATCT CCATCTTTTG GAGCTTTCTT 120
 50 CACAGGCTGT AACATTAACA AGGTCAAAAA CTCTACAGGT TATAGAAGG CTTTGTGACA 180
 GAAAATTAGC GTATACGAAG TCGGATGAGT CTATTTTCAG CAGCATTAGT GATATTCCGA 240
 55 TTGATGGACA TGACTTGTCG ACCGCTGAAA CATCTTCOGA AGAGCAGCCG AAATCTCAAT 300

5 CTTTGTTTGA GCTATTTGAG GAGAAAATAT ACAGCCTAAA CACCGAGGCT CCTTATATGA 360
 CTCACGATGA CCACTTCATC CAATTTGTGG CTCTCAAAAT TCAATTGAGC ACTAAGGAAT 420
 CGCCCGGAAC GTGTGTGCTT GTTACTGCCC CTTCGATGAA ACTGAAAATT ATAGACTTGG 480
 10 ATTCAAATAC TTCCGACAAT GAGTATWATG AAAATGTCTT TATGACGAGG TACACTGCAG 540
 CATTGATTCA AGCAAATGTA TTTATCTTCC AAGAAAGTGA CTATAAAGTC TTGAGAACT 600
 15 CATTGTTTAA TCCCAAAGGC TACGGTGCTA AAAGTACAGA AAATTGGCAA CCTTGGCTAG 660
 GACTGGAAGT ATGTTTTGAA CCGGAGCCCT TCCAAAGTAA TACGGTTATT AAAGAATTTC 720
 20

(2) INFORMATION FOR SEQ ID NO:790:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1506UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:790:

45 GATCTCCCCA TAAGCTCAAC ATTTTCGATA TAAGATATTT GCGTCCCCGC CCAAACAAG 60
 ACGGTGGGTC CCAAACTCAA TGCCCCATTT GCAACAAAG GCAATCATG ATTCCATCTG 120
 50 TCCCTCTGGT CAATCACCGA ACTTAACAGT AGTTGACGCT TTGTCACTTG GACTAGATAG 180
 TTGTTGGTAA CGAAGTAGTA TATCGTGGG CAGCCCAAGT CGCTAAGGAT GGCATCAACT 240
 55 TCGTGGCATT CCATGTCTTC TTCCGAAGAA AAATAAAGTA CAAACGCCCT GGTATGGTC 300

GCCCCATCAG AACCAATAAC CAAATAACCT TTATAGCGTC TATCATGGCC ACAAAGTCTT 360
 5 GTATACACTT CTTOGGCAAC GGCATCCAGT CCTATGGTCC ATATGCTGTT AAAAGCAGG 420
 AATTCTGCCA GGTACAATAT GTTTTAAAA TGGGCTACAT GACCATTAGT TGATATGTTA 480
 10 GACAGCAAGG ATGATGAGCA AGAACATAAC TCTTCTGTGA TTGTACTGA AATGCCAGGA 540
 GTTTTATUGC GGAAAGAGAT CAGCTCTTCC GCGTATGCAA AGCTGGTATC CTTCGTGTGT 600
 15 CTCTAAGAA TATTTGACAT AGACTCCACA TAGGCTCTGT CATCGAGGAT TGCAATGCCA 660
 AGAGAGATCT AGCGTTATCT CAAATACTT CCAAACTTA TAATCTGTAA TTT 713

(2) INFORMATION FOR SEQ ID NO:791:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1507RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:791:

GATGGGCTGC GCTCCAAGA TGGCAGCATT GCTCTTAAG GGGCTGAAAT ATATGTGGA 60
 45 CTCATGGCTG ACTTTAGGT CGGGGGGCA GACAGTCCA ATGGGCCGA GGGCTGTGTG 120
 CTGGGATCC AACTGAAGG ATGGCGGTGC CAGATGTTT TAGACGGAT CCATATCCG 180
 AACCTATCA ATTGGAGTGC AGATGGCTCG CAATCTATC TGACTGACT GCTAGCATT 240
 ACCATATGG CGTGCCCGT AGTGGACGGT AGCCACAAC TCTCAAGAG AACCCATT 300
 55 TACTGTACCA AAAATACTG CAATGACTCA CACACTTGC CGGAACCGA TGGTGGATT 360

GTGGACTGCT TTAAGTGGCA CACTTTGTGT GCGGTGTGGT CCACTGGCAA AGTCGAGAA 420
 5 CTCGACAACG CAGGCAGACT ATTGGGTGCA TATACACTAC CGACGCCAAG AGTCAGCAGC 480
 TGTGTGTGGG GCGCCGAGG CGAACTGCTC CTGTCCACGG CGCAGCAGG CGATTTCAG 540
 10 ACTGGGCGAC ACTGTGACGG CGTCGGAGGC AGCATTTTCA GAGTGTAAAT CCGGGGCGGC 600
 CCGGTATCC CAAGCCGCAT CCGCGGTCT TCGCGAAGCA TCCTTTAAAT AATATTACT 660
 15 TCTACACCT CTGTCCCTCT CTACGCCCA GCTCATTGAT GGGCGGT 707

(2) INFORMATION FOR SEQ ID NO:792:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 570 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1507UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:792:

GATCGTACCA GTATAATACT GCGAATTGAC GCGCGCAGCC AAGGCGTGT AATCATCGTG 60
 40 CTGATAATTA TGTCATAGC CATCATWAT GGAATTAGCA TCAGCTATTT GCTTACGGTG 120
 TTGACGAGCG ACTGTAAATC TCCATAGAGA ATTCTCTCA ATAATTTCG AGACWGTCT 180
 45 CTTTTTAAA ATCGGCTTTG GCGCGGAGG TTGAGGGGG CCAGTGCTAC CACCAGACTT 240
 CTTCTTGGAA ACCCGCTTGG AATTTTGTG ATCGGAACCA TAGACAAGCT CTTCATATC 300
 50 CGCTACGGCA TTGGGTGTCA ATGTCTGAGC GTGACCGCTA TCAGTAATA TAGGCCATA 360
 CAGCCATGTG ACGTCGAGT CCTTGACCA GTTGACAACC TCTGGGCTCA CGGTGGGTAG 420
 55

ATTATTCGG GCTTTGGGCC AACTCTCTCA GGATGGGTC TOGAGCGCG CGCGTTCAC 480
 5 GAGGTCTGC TCTCCCTTCT GTCTCTCTT CAGGATGATG TACTTCAGG ACTGAGAGAT 540
 GTCTCACTCA GCCCAGTGT GCGAAAGGTA 570

10 (2) INFORMATION FOR SEQ ID NO:793:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 692 base pairs
 15 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1508RP
 25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:793:

30 GATCCACAGG CAAAATTAT GCATATAGCT TGCTTATATT TATGCGGTGG ATTCTATATG 60
 TOGCACGCTA AATACTAATA GCGCGCGTA AAAAGTAGTC CTGGCAAAC TCGTAAAGG 120
 35 CAAGGTGGA ATTATAGAAA CGGACTCAG AAAAATAAT CCAGAGTAAT TAAGGGACTC 180
 GGAAAGCGA GCGGTTCTT ACCGAAAAC TCAACGGAAG TATATGAAA AATTATCTT 240
 40 GCAGATTATA CCATGCTG TTTTATCCAA GGTAGCCAA ATATATACTA CAGGAAATGA 300
 GTGACTTTTC ACTTCAGAG CCCAAATAAC AATAATTTA GTAAAATTT AGCATTCCTG 360
 45 CTACTCCAAC TTCCAATGA ACACTTCTGA AAGCGTAAAT ATATAGCTAT GCGTTTGCC 420
 TOCCAGGCTC TAACTACAAA TTCCACTTA TGTGTGTAT TCAGGAAATG CAGGGGAATA 480
 50 GTTGAATCAA CGAATAGCG TTAATTGCA ACGCCTTGT ACGTGTATAA AACCCACCC 540
 CCTCGAAAA AGATGACTAT CGTTATAAC TAAAAACAT CATCAAAAA GAACTAAGTT 600
 55

ACTGAAAAGA AAATGGTTTA CCGTCTAGCA GTGAATTICA GCAACCAGCC CACATGGTA 660

5 ACCAATTTC GAATCTATCG TTGCAGAATA CT 692

(2) INFORMATION FOR SEQ ID NO:794:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1508UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:794:

GATCTGGTAA CGACTAAATA AGAATCTTGA CCGAGCAACG CCGGCGCGGT CTGGGCAGTG 60

TAGTGTCTCT CAAGTGCGG TCTGGCACTA GTTAGGTCTT GCAGGTTCGC TTGAAACCAG 120

TGCGGCTCGG TAAGCAACGA GATGCGCGAA ACTCCGCGCT CCGCATATGC AAGCGCGTGT 180

TCTGCTGCAA GCGCTCGCT AATATTGCCA CCGGACGGAG ACGCAAGTTT TATCTCGCT 240

ACCACAGCCA GCGCGCGGC GTCCCGCGCC AGCGGTCAT GGAAGTCCAC CACGCGCGGC 300

AGAACCCCA ATCGAAAGCT CCGCTCCAGG TCGGCATAC CAGTTCCGG CATAGCATC 360

TGCGCTGCA CGTCTCTTG TGGTTGAGG TATATCTGC TCAGCACAGA GCGCGCGCT 420

GCGCGCAGCT GGAGCTTGTC GTTCTCAGC CACGTACGC CTTCAGCGC TAGCATGTTG 480

CGCAACATTA GCTGCGCGTG GTCCGTCAGA ATGACTCCG GGTGGAACTG CACACCTCC 540

ACGGTGTACT TGCGGTGCG CACGCCATA ACCAGCGCTG TCTCGTGGC CCGCGTACC 600

TCCAGCTCG CCGGAAAGT TGACGCCAGT CCAGCCAGG AGTGGTACG TGTCACTGCC 660

ACGGCTGGGG TACCCCTGGA AGAACCCGGC CCGTCGTGAC GCAGCTCGA CGTTCT

716

(2) INFORMATION FOR SEQ ID NO:795:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1509RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:795:

GATCCAGTTT CTCGCGATT TTCTGAACGA TGAGATATGA GTCTAAGTTG GCTAGATTAC 60
 TATATAGCCA GTTGTTGCT CGACGGGCGA AAACCGAGAC CGGTTCCTTC CTTTGACAAG 120
 AAGAATAATC GCCATCTACT TTGTTTGAAT TCTTAAACG GTCTAACTCT TGCAGTACCG 180
 TTTTGGTAC TACTATGCGA TAGCTGTATT TTGGGGCAAG CACTGTAGT TCTTCAAGGA 240
 TATCCAGATG TGATAACACA TAATTAGTAT CAACGACCAG TGCAATATTA TGCAAGTCTT 300
 GCGCACTTC AACCTGGGC TGAATTACTT TTGCGAAAGT CTCTTGGCC GGAATATOGA 360
 CTCTCTTGT AGGAATAGT TTAATGTGT TAATTCATG GCTGTGATAT TGTCTATAT 420
 CCATCATGC TTCAGCTTG TGTTCCCTTA TAATTTCTGC TTCAACCAAT GCATCCAATT 480
 CTGCAATGCT ATATTTCTTA TTAGAGTGCT TAGGGTTCCA AGTATCGGC GAGCTTATGG 540
 TATGGTCTT ATTCTGATG CTAGCTTGC TCTTCTTCC ATGGTCCCTA GACATCTCT 600
 GTGTAGCTTG GTGCATAGAC TGTATATGAT TGGACTCCAT CGGAAGTAGT GGCAGTTTA 660
 AAGACAATA ATTAGGTATC ACCTCCATTA ACGTACCTTT GATATTTATT ATATGA 716

(2) INFORMATION FOR SEQ ID NO:796:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 590 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1509UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:796:

GATCTOGAGT TTCATGACGA GTGCATGGAA GATGTGTTTC TAAATGCAAC TAAGGTCCGT	60
AAGGTCAGTG AGGTGCAGTC CTTTATCACT CTAAAATTCC CCTCTTCCTT TGATGATGAG	120
ATACTOGAGT CATOGATGCC AACTACAAGT CACCATCAAG ACTTACAAC TCAAGACGTA	180
CTTGTTGGAT TGGTCGATGC TATGGATGAT AGGCGCGACC AAGAAGAGA TATCGATTGG	240
CAACAACCCC TGGATGTACT TCCTTTGATC GGCTGGGACA GTCCAGTTTC CAACTTGGCG	300
CGGATTACGG GGGTTGCTCG TTGGGAGGAT GCAGACGAAT GGGATCTTGG ACAGAGCAGT	360
ATTACTCTTA ACAAACTAGA AATCCATTGG GTCCAGAGCG CTACCACACA CCGTGTGGGT	420
GTGCTAGAAG AAGAACAATC GCTTTTGATC ATGCTGCAGA AGCGCAGACT AGCCAGGAAT	480
GGGTCAAGAA CATTAGCCAC AGCTACAATC AACCATGACC AGGAACTGCA ACTAGAAGTG	540
CCAGATAGAG AAGCCGCTTC GCCTGCCATT GAACAGGAGC AAGCCACCTC	590

(2) INFORMATION FOR SEQ ID NO:797:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1510UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:797:

GATCAGAATT GGAAGGGATG TTGCGCGAA GAAGTTGCTG ATATCGAGGA GCCACTATA	60
CCCGTCATTG GCCGGAAGTT TTTCAGTAC GAATCTCTA TAAAGCACTT GCTACCCCC	120
AACGCCACTA TAAAGCAACC CATCTCTCAG CCAACTGAGG GAGGGGTCAA TGCTCCACCA	180
TTGGTTGGCG CCGTTTATCT ACGCCCAAAA ATTAAAAAGG ACGACTTAGG TGAATATTCC	240
ACCTCGATG ATTGTCCAG GTACATTATC AGGCTGCTG ACCCGCTGA GGTGCTAGA	300
ATCGACCCAG AAACGGGAAC CATCATTAAC AATTCCTAGA CCGCAGTGT ACTACCGAAA	360
ATGAATATGT CTACACCAAG TCTGTCTCT TTGAACCGCA ACGGTAGCTA CTGAATTTG	420
ATAGGCGGTT CCGGTAGGCC AATTACATG ACCAGGTCCA CCAATACTT CGCACCAGTT	480
CCTAACGGCG ATCTGAGAAA TCTGCCAATC GTGCAACAAA TACCGAATAG CACTATCCCA	540
TCTGGCAGT CGTCTGCAA AGGCGGCATA CAGGGGGACC ATGGGGGTT CAATTAAAGG	600
TACTACCCCT GCATACCAAC CCCCTTCCAT TATTAAATAC CTAGCCGCC AGGCTAAGAC	660
AAACAATACC GTTCTTGGA ATATCTTGGT CGATACGCC GGTCCTACG TTCTCTATA	720
TCT	723

(2) INFORMATION FOR SEQ ID NO:798:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 693 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1510UP

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:798:

15

GATGCCGCT ACTGTTCTAC GACCACGGC GGGGCTGAA CCTGGCGATG GGGTCAAGC	60
TGGAGGACCC GCAAGCGCGG GGAAGGAGC GGCGTACTG CTTGGTGCTT ACGGTGAAC	120
TGGGAGAAGC GGGCCCGCA ATGAGATCG TGTGCGACA CTGGAAGTTC ATCTGGGCG	180
CGTTGAAAA CATGATCGAG TACATCAAGC AGCAGCGCGG CGGGAGCTG CTGGGGTGA	240
TGCAGCAGG GCAGGTGAG GGCACATGA ACTTTTGTG CATGGTCAGC GGCACCTATC	300
TGCGCGGAA CAACCTGAAG ATACCGAAG ACATCAAGG GCTGACCAAC GATAGACTGC	360
TGTTGTCAG GATACACAAG TGAATGCAT TTATACTGA TAGACTGGA GGCAGCTGG	420
ACTGAACCT TGGGGCGTG GCTGCGCGC AACAGTTGA AGATAGAAG CAGAAACGCC	480
CGGAAGCGG AGGCGGAGG TGGAGGGT TACATAACTT ACATTCTTAA CTAGATAGTG	540
TTGGCTGTA CATCAAGTTC AGACGTTAAG GTTGAACGG GCATGGTGA TGTGTTGCT	600
GAAGGGGGC AATGCAGATT TGAAGTCTT GTTGATGAAC TTCTCCACT GCTGTGGGC	660
OCTGCCACA AACGTGGAG GGTCCAGCAG GGA	693

45

(2) INFORMATION FOR SEQ ID NO:799:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1511RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:799:

GATCGACCAG CTGGTGATGG ATAGGCGGCT GGTGCGGCTG GGGCGCTTCG TCGGGGGGCC	60
CGATTPTGGG CTGTTGTGCT GGGTGAGGTG GAGGCTGCAC AAGGTGGTGG ACCTGTGCTG	120
GAGGAGCGCG GTGCGGGAGA ACGGACGGTA CCTGCGGAAC TGCGCATACG TGAACATGGA	180
CGTGCTGGCG GCGCGGCACG GCGCGGTGGA GGGGCGCTG GAAGAAAAGG TGGTGGCGCG	240
GCGCAGCGGA TATACGGACC TTGTGTTCTC GCGGAGGAG TTCTACGGCG TGGTGGCGGA	300
GAGCCTAAGG GGACGCGGGG AGTACGATGT GGTGCTGGCG GACCTGGACA AGCAGCGCAA	360
GGCGATTCTA GTGGACGAG AGTTTGIGAA GGTGGTGATG CCGCGGTGC GCGGCTGGT	420
GCAGCGGTC GGGCTGACC GGTGACCGC AAAGGACCGC CACATCGCAG AGTTCAAGGG	480
CTGCTGCGA TTGGTGAGC GGCAGGTCCA AGGATCCAC GGGCAGTCG AAGAGACAAC	540
CGGCGCGCTG CGTTGGCGCC GTCCCGCGCG GCGCGCACG CGATGTGCAG GCGCGGTACC	600
TGCGGATGAA CAACTCGCGC AGGCCAGCCT GTCTCGCGCG CTCGAACAGT TTACGAACCT	660
AATGGAGATC AAGGAC	676

(2) INFORMATION FOR SEQ ID NO:800:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1511UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:800:

10

GATCTTGCCC CACGGCCCGT CUCTCAAGTT CCCCCGTTC GCCACAAAG CCCGAACAT 60

15

GGGTTCATCC AGCTGGGCT CACTCCACCG CGTCTCCCA GTACGACGA CAAACACAAG 120

CACTCCCGCA GACCAGATGT CCGCCGTGTC CCGTGGTAC GCGCGTGGC CCACCACTC 180

20

CGCGCCAGG TAGGCAGCG TCCCCCGCG GTCCGCGGC AGCCGCGCG TCCGTGCGG 240

CCGCGGAAC CCGTCCCA GCGGAAGTC CCGCACTTC AGGTTCGCG CCGGTCCAG 300

25

CAGCATGTTT TCCGGTTGA TGTCGGGTG CGCAGCGCG CAGGCTGTG GCAGGTGTG 360

CAGCGCCCG ACCAGTGT GGTAGTAGAA CGCGCCACT CCGAGTCCAC CCCCAGTTC 420

30

GGCTGATCT TGTCGAAGAG GTGCCCCCG TCCGCGAGT CCATCCGAT CCATAGGTAC 480

TCAGTGACA CATTGCAGTC CAGCACTTC ACCACATGTC GGTGCCCCG CACCGGTCT 540

35

GCAGCACACC TCGCGGTCA GATCTCGTC CGTCATCCCT CGCGTTTGC AGCGCTCGAA 600

GTCAAGAAC TTCACAGCA CTATGTCG CCGTCTCG CGCAAGGAG CCGTTTGA 660

40

GAACGCAAG TGGCTGCCC AATGCTCTC CGAAGCTTA ATTCTTAAT CTCGGGAG 720

CA 722

45

(2) INFORMATION FOR SEQ ID NO:801:

(1) SEQUENCE CHARACTERISTICS:

50

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

55

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1512RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:801:

10

GATCTTGACT GGAAGGATGA GGAGCAAACC CCGACAGCG GAGAACTGC TATTTCGGTG 60

TCTACACCGG GCTCTACTCG CATOCAAGTT TAGCTATACC TGCCTATTAT CTAGATATCT 120

15

AATGCCTACC ATATGTTGTG ATGACACTGA CATTACAGCT TTAACCACTT CAGCTTATTA 180

AAAGATTCCA GACATACAGA AAAAATCCGG TGTAAAAGT TATACATATA CACCATTTTA 240

20

CCTATATACG TGTAGACGAG TAGAGCTACT AAGCAGCCCA AGAAACACTA CCATATTCAT 300

AATGCCGAGC CTAAGCACTT TCGATGCGTT CCGTATGTGC CGAGGGTAT ATGCCACACA 360

25

CGATGCAGTA CTAACAGTGG TAGCAAAAAC CGACCAGCAG CAGTCCGTC GGTCACTCTG 420

CGGGGGCAAT ATGTCCATAA TGATGTACCT GTTCTCTGCTG TTATCCGGT GGGGGGAATT 480

30

TGGCAGCTAC TTTGGGGGCT ATTTGGAGCA ACAGTACATC ATCGACCCCG AACTGGGGCA 540

GACAACGCAG ATTAACATGG ACGTGATGGT GCAAATGCCG TGCAAAATAC TCGAGTCAA 600

35

GGCAACTGAT ATTACCAGGG ACATTAAAGA CGTGTGAAA AGACTGGTGT TCAAGAATAT 660

CCCTTCTTC GTACCGTACG GCACCACTT TGACTCTGTT AATGAGGGTC CGCACCCCGG 720

40

AC 722

(2) INFORMATION FOR SEQ ID NO:802:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 679 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

55

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1512UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:802:

10

GATCGAATGG CATCCCATTC ATCCGATGAG GACGCTATGT TAAATAAATA TTATCTATAT 60

ACTCTAAATA CTATATGGTT TCATCGGTGT TACCGGATT TAGAGATGG CGTCTCTGTC 120

15

TCCAAGCTTT AACTCGGTG GCTGACGATT CTACATAACG TGTATTGACC AGGCTGAGCA 180

GTAACGTTAG CAACTTGGAC ACCAGTTATG AGTACCGATT TOGACAGAAT TTATTATAAC 240

20

CAGTCAAAGG TGAGCGGTGG CTTCGGTTTG GGCGAAGGTG GCGTGGGATG GAAGGCTTCC 300

GCCACTGGCG GGTCGGCTGC CATGCAAAAC AACGAACCAA TTCTCTTGAC TCGGGAAGAA 360

25

CTGGCTTCGG TGCAATGGAG TAGAGGGTGC CGTGGCTACG AACTAAAGAT TAACACGAAG 420

AACAAGGGCG TGGTCAGTT GGACGGTTTC TCGCAGGAAG ATTTACATT GTTAAAGAAC 480

30

GATCTCCAGC GCAGATTCAA CGTGCAGTTG GAACACAAGG ACCACTGGCT TCGGGGATGG 540

AATTGGGGTA CTACCGATCT GACAAGAAAC GAGCTGATCT TCTCCCTAAA CGGGAAACCA 600

35

ACTTTGAAA TACCATATTC GCATATCAGT AACACGAATT TAACATCAA GAACGAAGTT 660

GCGCTGGAAT TCGACTTGC 679

40

(2) INFORMATION FOR SEQ ID NO:803:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 721 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1513RP

55

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:803:

5	GATCAACTGT TGCTCCAGTT GCTCCTTGA CTGGTTCTC AATTCAAAG CTTTACACC	60
	GGCTGAGAT GAGATGTTAG TACTCCGGC ACCTATCAAG CTGGGAATGA CATTGCTGGC	120
10	AACCTGGGG GCGCATCTA CCGCTGGCT ACGCTGGCT GGCTAACCG GTATGGCTG	180
	CTGTGGGCA CTTCTGTCC AGGATTAA GCTCTAAG GTCACCTGA TACCCAAGA	240
15	AAAGCTGCAT GCCATCATC CAGCTATAC ACGCTGAC ACATACCATT ATGATTGATT	300
	TTCCTGTATT TTGACTAAG AGCACTCCA AATGAATGC CTCTTCTGTT GAAGATGTTG	360
20	GCTGCTGTG GAAACCGACT GTGCTCGCT CGGTGTGGC GAGGAGTCT GTGGAGGAC	420
	GCAGATCTT CAGCTATACA ACCACACAC CTCGAATGT ACGGATCAA CAGTCAACA	480
25	CAATTCACAA TCACGTGACC TACAGGTGA ATTAACGATT TGGCAGATC GCAAAGTGAG	540
	CGCCAAAGC GCGACGAAC ACGGAGGG GTACAGATG GTGGGACTT CTTACACTAT	600
30	ATATGATGG TAACAGTGA CCACAAAAA AAAGTAGTAT ACTAGGTCT ACGAGACTTC	660
	GCTAGTTCAT TTACAGCTA ACCTAAGAT TAATTATCC AAGACAGTA TTGAAGGAG	720
35	A	721

(2) INFORMATION FOR SEQ ID NO:804:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1513UP

(X2) SEQUENCE DESCRIPTION: SEQ ID NO:804:

5	GATCTTTAAA ATTTCGCAAG AACAGCCAAC ACTCCCGTCA AAATAAGAG CAAAGCGCCT	60
	CCACACCTCT ACCAATCAGG TCCGAAAGGC GATCTTGCAA TGACGAGCAA GGTACAAAG	120
10	AAAGTTAGAG AGTGGCACAG TGCATGTGAC GACCAGCAGC ATAGTTCTCG GGCCTGGGGC	180
	ACTGCAGCAG AGGGAGCGGC TAGTAACGTG GTTCAACCGT CCTCGGTGA TTGAAGAAA	240
15	CTGGCAGAAT ACACACTCTC CACCCCTACG TCGAAGAGT GCATTAATAA ACGGCTGGG	300
	TCCACGAAG TGCAGGAGT GAAGCTGGGG GGACTGCAGT TTCTGTTTGA CAAGACGCTA	360
20	CTACTGTGTC TTACATGGC ATATGGGTTC TACCGATACT TCCAATACCA GTACAACAGG	420
	CTGGGTATCA AACTACTGAA TCTGGCCTAC TCGCGTCCA ATACCCCGCA GCTGATCAGA	480
25	CAGGACGTGC TAAAGTTCCA GAAGGTCCCT AAGCGCTGG CAGCGATTTT GGCATACAAG	540
	TCTGAAGGGG AGGTGGGGG TGGGTCCAC GCTTGATAA ACGACGGAAG CAACGTANTA	600
30	TGCTGGACTG TGTCTGGGG CATCAAGCAC CTGTGCTTT ATGATCATGA CCGGGTCTC	660
	AAGGCCAAG TGCACCAATT CCGCCAGGGC GTGTACGATA CCTGGGGGG TACTACGGCC	720
35	CAACAA	726

(2) INFORMATION FOR SEQ ID NO:805:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 736 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1514RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:805:

5 GATCTGGGTG TATATTGGA TGTATATGGA CTTACACTT TCGAAGCAA TCGAACTCGA 60
 AAGCTGGTIG ACCACTCTGC TGTATTCTCG TAGTCTTTCT GAAACGACCG TAAGAAAATT 120
 10 AACCTTGAGC GGCGATAGGG AAGATGCAAC TTAAATTTC TCTACTTGGT TACTCAAATA 180
 CTGATATAAT AATGCAGCCT CAAATATGCT GTGGAAAACA CCACTTTTGC CGTTCGGAAC 240
 15 ATTGGGTGGG ATTTGATAA CCGATTGGA GATCGGGAAC AACTCGACG TAGTAGCCAG 300
 TAACGTGTAG GAAATATACT TTAAAACGTC GGCTCGGGC ACCATGTTGC TGTAGTATGG 360
 20 GTTAGACAGA TATGCCAATG GAGTATGCTG CTGCTGGGC CCGTTGGGA CCGGGCCGCC 420
 GTATGCAGAG GTTACCGCG ACGGGCGCTC TGAAGCGGC TCACATTCT CGAACGACTC 480
 25 TGCATAGACA CTAACCGCCC TCGACGGCGT CATCAGCGAG TTGTGCGGTT GCACCGTGGC 540
 GTTGTGAAGA TATCCAGAG CCGTGGCGCT GTGTGGAG GCGGTGCTCT CTTGCGGCAC 600
 30 GCTGTTGAGC ACGTCAGT ACTTCAGCAC CTGCTCTTG CTACCGAAAC TCTCCAGCAC 660
 TTTCAGAAC ATCTGAACT TCCCCACTG CTGGTCTGC TCGGGGTGC GCACCATCTC 720
 35 CGCCCGTAC ATGCTC 736

(2) INFORMATION FOR SEQ ID NO:806:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1514UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:806:

5 GATCTCCACC GCGTCCAGCA CCACGATCCG GTCACCGTCC CACCGGGTCA TCGCCACTGT 60
 CCGCGCGAGG CTTTUGAAAA CCGCCCGTCC CTCGCGCGTC GCAGCCCCTC CCCCCTGTTC 120
 10 GTGGGTCCGG TGCTGGGCTT CCGCGAGCCG CAGCGTGGCC ACCACCCGCT CTATATTAC 180
 GCGCGCGGGC TTCAGCGTGT CCGCCTTGAT GCCAGGGCTG GTGGGTTTCT CTCCCACCAC 240
 15 CTCACGGCTC TTGATAAAGC TCGTCTTAAT CACCTTAAAG CTCGCAGTAT GGCCTTTGG 300
 CCCACATAGT AGCGTCAGCG TATGGTTTCC CGAATCGTAC GCGTATATCT TGCCCTGTGT 360
 20 TACACCGTCC AGGACGTTGG TCACCCGCAC CTTGAATCCA AGGATATGTT CCAAGTTGAT 420
 GCTCAFTCTG CTCACCTTCA AGCCCAACA GCTATCTTGG CCACCTTACA ATGCCACGCC 480
 25 TGCTCCCGCT CCACTGGCTG ACTCCCAATC GTTCAGTTTG CCGTGTGGGT ATTTTTTTGA 540
 AGTGGCGCTC TAGCGATGAA GTAAGATTTT CTATGTATTA CTATGTGCA CAAAGGTTAG 600
 30 TTCCAATAGT GCTTGCAACT ATCAGGTGCT GTGGAGTTCC CAAGCAGAG AGTGTCTGAT 660
 AGTGGAGCCG ATAGAGAATC CGATAAAGAT TATTCOCGAA AATCTAAGCA CAGGTGG 717

(2) INFORMATION FOR SEQ ID NO:807:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1515RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:807:

5 GATCCTTCGC CGCGTGGTCA AAGCCCGGAT AGGATATCAC AGGGCACTGT GCAAAGGTAT 60
 CGCATATTGT TTCCATGAGC GTTTCGCCCT TGGTCTCTT CGCCGGCTTC CACTTGCACG 120
 10 TGGCCGCCAG GAGCTTACAG AGCTGCAGAT AGTTATTACT GTCAAACGTC CAGGGTGCCC 180
 CGCGCGTTT GTGCGCGCA GCAGCATCG CGAAGTGGTC CAGGTGGCC CGGACAGAT 240
 15 GGAACCGTC CATGGGCACC AACTCAGCTA TATTGACCGA TGAOGCTGA TCCAGGGCTT 300
 CGCTCGGAT GGGACCGAA TTGGGGAGCC CGCCCGGCC GAAGATAACT GCGTCCCAT 360
 20 CCCCATGTA GAACTTGTGT GCCTGAACC CCGGTCTC CAGTGGCG AAGAACCCCC 420
 GTGCGGCTC CTGGACCAGG GGGCTGAG CAACCGGCAC AGTCTGTCC AGGCTTTCG 480
 25 CAGCAATGCC CGGGAAATC CTCATCCAC CCCTTGTGC CTCAGGTGA CTCTGGAATT 540
 OCTGTTTCAG GTCCCGCTA AGCTCTGCG CCATGTTAGA CTGCGCGAC CCAGGATGCC 600
 30 CCACCACCAC TACAGCCACC CGATAGTTGC TCTCGATATT CTGAGCAAGG AGATCCACA 660
 CTGCTTCTT TAAGTCTTCG TAGTCCATGC CGCTTGTGT GTATGCTGC TGGT 714

(2) INFORMATION FOR SEQ ID NO:808:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1515UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:808:

GATCTAAGCG CGGCTGTCTC CTCGAAGCGT GTTCTGCGCT CTCTTATATC TGTATCTGGT 60
 5 AGCTTCAGCA TTAAAAAACC GTCCAGAGAA TTGGCTTTTCG GGCATGCTCG AAAGCTCACT 120
 AGTCGGAGCG CAGCATCTAG GACACCAGTA GGATGCAGAC AGTGTTTAGG CCATTGAGAA 180
 10 GGTGATTCTT GAGGCCCCCT CGAGGCGCTG CGCGGTCCAG CAGGCTGCAG TCGGGACACA 240
 ACAAGTGGTC GAGATCAAG CAGGATAAG CGAAGAACGA TGCTGAGCGG AACAGGCTTT 300
 15 TCACGGGAT GGCACCCAG ATATCGGTGG CAGTCAAGCA GGGGGGTCT GCGACCCGA 360
 CGCTGAACCT GCGACTGGCG GCGCGATAG AAGCGGGTC CAAGGCCAAT GTGACCAAGA 420
 20 AAGTGATCGA AAACGCCAAT CGCAAGGGCG TCGCGAGGG TCGGGGCGCG GACAACGCG 480
 AGGCATGCAT GTAAGAGCG ATACGGGCG GTGGGTGGC GTTTGTGCTG GAGGCTCAG 540
 25 CGACAACAAG AATCGGACCG TGACTGTGA CGCGCGCGT TCAACAAGCA TGGCGGCAAC 600
 ATGTGCGCG CTCAGTACTT CTTCAGGCG CGCGGTACG TGGCAATCCA GGCACCGGC 660
 30 TGTGCGAGA GTTACAAGC GGTGTTTTCG GTTGTGTCC AGGTGAGGG CGTAGAAGAA 720
 CTGGA 725

(2) INFORMATION FOR SEQ ID NO:809:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 687 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1516RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:809:

GATCCGACCT TTGGTGGCTT GGCTCGAGTC TTTCTTCAAT TTAAACCCCT GTTCAACAGC 60
 5 AGATGAAATT GTTAGTCTAT CGAGTCCACG TAAAGACAA TTTTGAAGC TTGAGATGAA 120
 GGGTACGGCC TCTCCGACA AGCGGCATCG CCTGCACCGA AAAGTATCCG GTCACCTCTT 180
 10 CATCATACCG TACCTTCACT ATCTCTTTCC GCCGGAAACT AAATACAGAA ACATACCTTT 240
 AACATCCTTA TTCTGTTTAT CCTTTCCTGA TTTGACTGG AATGTAGGG CGAAAGGGAT 300
 15 CTGTTTCAAA AATTGGAAAC GCTTACCACC TCACCAACAC ACCAGGACTT TATTTGGTAG 360
 AAACAGGGCA TGGGCTGAA CAACAGTCAC TAGAAAGGT GCACCAAGGC AGCTTGGCAA 420
 20 CGAGGAGGCA CCTAGGGCT CAATGGGTG ATAGTAAAGC ATGTACAGCA GCTTGTCTC 480
 CGAGAGAAGG AACGAGTCT TGCACCTCGA CAGTACGAA TCTGAGATAC ACCACCACGG 540
 25 GTGCGTAGTG GTGCGACGTA AAGCCTTCAG TTTGCGGCGA CCGCCTGGGG ACGGGGGAGT 600
 ACTTGTGGC AGCGGAAGAT ACGCGATGA GCTCGCAGAG CTGGCTCGG AGCTGTCTG 660
 30 CTCGGCTGAC GCGTCGGCT TGGAGC 687

(2) INFORMATION FOR SEQ ID NO: 810:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1516UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 810:

GATCATTAAAC GAAATTCTTG TGSTTGATTA CGATGTTGGA TGGGAAGATA TAGCTGGTCT 60

TACAATAGCA AAGAAGTGT TGAAGGAAAC AGTTGTTTAC CCATTTTTCG GGCCAGACCT 120
 5 TTTTCGGGGT CTCGGGGAAC CTATCTCCGG GATGTGTTA TTTGGACCTC CAGGAACGG 180
 TAAAAAGATG ATTGCCAGGG CCGTTGCGAC TGAATOGAAT TCAACTTTCT TTTGCATCAG 240
 10 TGCTTCTCT TTGTTATCGA AATACTTGGG TGAGTGGAA AAACCTGTCA AGGCTTATT 300
 TTAOCTAGCC AAACGGCTTT CCCCCCAAT TATATTCAIT GACGAAATCG ACTCTCTACT 360
 15 AACTAGCGGT TCAGATAATG AGAAGCAATC ATCCAGAAGG ATTAAGACGG AACTCTTGGT 420
 CCAATGGTCC TCCCTAACA GCGCCACGGC TAAGGAAACA AGAGAAGCGG AAGAGGCCAG 480
 20 ACCGGTTCTT GTCTTGGCG CAACCAACTT ACCGTGGCG ATAGATGATG CTGCTATTAG 540
 ACGTTTTTCA CGGGCTCTAT ACATTCATT GCGGAATAC GAAACAAGAC TGTATCATTT 600
 25 GAAGAAGCTT ATGGCCCTTC AAAAGAATGA ACTTTCTGAA TCTGACTTTC AACTCATTCG 660
 TGCATGACT GAGGGCTACT CGGGATCTGA CATAACTGCT CTTGCCAAAA GAAGCAGCTA 720
 30 TGA 724

(2) INFORMATION FOR SEQ ID NO:811:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1517RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:811:
 55 GATCAATGAA AAACATGCAT ACGATTTCAT GAAGCAAAT TTGCTTGA ATATTGCCAA 60

CTCTATTAC AAAACAGAAA TACTAAAGGA AGAGAACTTC ACGTTATTAT CCAAAGCCCA 120

5 AAGAGATGAC GTGAAAGGAA GAGAAGCGGA GTTATTACTT CCAAGOGAAT TAAATCAATT 180

AAAGATGGTC AATGAGCGTG AGCTGAACGG CCATGCAAGA AAAATAAGAC TACTATOCAT 240

10 GTGGGAAGTC TTCAAAATGC TTTAGGTCTT GCATTATTAT ATACACATTG TAGATACAAC 300

TGAAACTAA TGCATTTCAC GTCAGCAGTC TAAAAGTGGT CATGCAGTAA CTTCAACCT 360

15 TCTTTATTCC AAGGACAAAG GTATATTCCC AGCTGTGTCT TAGACAGTGT CCCCAGCTTG 420

AAACATGTGT TACTCAAATG GTTGGCAGTA ACCTTACATT GCCCAGAATG GGTGATGGG 480

20 TTAGAAGTGG TATAATCCAA CTGCTTCCAA ACATCAGCGT TATTAGGTGT AAAGAAAGCG 540

GATCTCTGCC ACAGAAATTT AGATGGAGCG CGCAAATTC A GTGCTCTGGA AATCTCATCC 600

25 ATGACAAGTG GAACATCTTT GTATTGTGCC GACAGGATCC CTTTAAATGG TAGGTTAGCT 660

AAATCTTCA TCAAAATGA AAGTGGTCCA CTTGTCTCTC CATGAGACAA 710

(2) INFORMATION FOR SEQ ID NO:812:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 662 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1517UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:812:

GATCTCAAA ACTACAGAGC GAAGTTGAAA AAGATCATAT TTTGATAGAG CGTAAGCAGT 60

55 GGGATGAAGC ATACGCTCTT CTCAAAGGTG TTGTGGATAG ACATCCACAT CTATATGATG 120

CACATTCAGC ATTCCGGTTGG TGTCACTGC AGTTGGGCGA CACTGAAAC OCTTTAGAAA 180
 5 CATTCCAGCT TATTATTAAT AATGIGAAGA GCAGCGACGG CAGTCTGTCT CAGTTCATTA 240
 GCTCAGTACA CTGGCGAACC GCACAAGCAC TTATTACTAA GCAGCAGCAT GAAGATCCTT 300
 10 CAGGTAATGA GTTATAAAG ATTGCTTTCC AGCATCTGGT ACAATCCCTG AAGATAACCG 360
 ATCTTTTTCG TCCAGGTAT TCCCTTCTTG GACACATTA CGAAGTGAT TTCAAGACC 420
 15 TGACTCGGCG ATTTAGGTGT TACGTAAAG CCTTTGAGCT AGATGCCGCG GACCTGCTCG 480
 CTGCTAAATA CATGGTGGAA TACTATAGTG ACCTGTGCA TTGGCAGGCG GGGGCAACA 540
 20 TCTGTGACCG TGTAAACAAG AATGATATGC ATCTCAATTC CGTCAACTGG CCGTACAGAG 600
 TTCTGGGTGT TTATTATTG GAGCTTCAAC AGGAGGCTGA ATGATCGAA TGGTTCCAAT 660
 25 CC 662

(2) INFORMATION FOR SEQ ID NO:813:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1518RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:813:

50 GATCAAATGC CCTTCCCTTT CAACAATTTC ACGTACTTTT TCACTCTCTT TTCAAAGTTC 60
 TTTCATCTT TCCATCACTG TACTTGTTG CTATGGGTCT CTCGCAATA TTAGCTTTA 120
 55 GATGGAATTT ACCACCCACT TAGAGCTGCA TTCCCAAACA ACTCGACTCG TCGAAAGAAC 180

CTTAGATGGC ACTAGCACCC CCGCCAGAGC GGATTCTCAC CCTCTATGAC GTGCTGTTC 240
 5 AAGGAACATA GACAGGGACT AGCAACCAAG GTACTTTCTT CAAATTACAA CTGGACGCC 300
 GAAGGCGCCA GATTTCAAAT TTGAGCTTTT GCGGCTTCAC TCGCGTTAC TAAGGCAATC 360
 10 CCGGTGGTT TCTTTCTC CCGTTATGA TATGCTTAAG TTCAGCGGT AATCTTACT 420
 GATTTGAGT CAAACTTTGG GAATACTATT CGCTGGAAG GCTTGTTC TGTACGTC 480
 15 TTCAAGGCC AGCTCACTC CAGGATCTGG TCGAAACCTA ATAGGCAGTG TAGAACTAG 540
 CTCAGAAGC AGTCGCGCA AGTCCGCC ATGGGCAGCA TTTCAGGT AACCTGTCT 600
 20 TAGACCGAG TATCACTCAT TACCAACCC GAGGGTTGA GAAGAAATG ACGCTCAAC 660
 AGGCATGCC CTGAATACC AGAGACGCA ATGTGGTTC 700

(2) INFORMATION FOR SEQ ID NO:814:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1518UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:814:

GATGTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTCGTCT 60
 50 ATGCAAAGTC ATTGGGTTTC CCTCTGGGG CCGATACAAC AACTGCCTAA CCGAACAGT 120
 CTCATCTCG GCATCTAGCG ATCCCATGGG TGACGAGCG AGGATTTGGT GGATTACTAG 180
 55 CCAATGGCAA TCCAAACCAA AGAAACGAC TTGGGGGAAT GCTCATTTGA ATAGCCGGTG 240

TTTCGACACT GIGATTCTCT GAGTGTAAOC TCCTCTTTGG TTGCCGATAT TAAACCTGTT 300
 5 CTGTGAAACA TCGGAGCGGT GTTTAGTGGG AAGCAACTAG AGGAACTCAA AGAGTCTTAT 360
 GGCATGGGGG CAGCTGTGTC GAAGGTGTAA AAAOCCGAGC TCUGGTTGTC TTGACACAGA 420
 10 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CCGTGGTGTG CTTTGCCCAT 480
 TTTCGGGTTC TTCTTTAAGA TAGTTATCTG GTTGATCTTG CCAGTAGTCA TATGCTTGTC 540
 15 TCAAAGATTA AGCCATGCAT GCTAAGTAT AAGCAATTTA TACAGTGAAA CTGGGAATGG 600
 CTCATTAAAT CAGTTATCGT TTATTGATA GTTCTTTTAC TACATGGATA TCTGTGGTAA 660
 20 TTCTAGAGCT AATACATGCT TAAATCTCG ACCTTTTGGG AGAGAT 706

(2) INFORMATION FOR SEQ ID NO:815:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 30 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1519RP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:815:

45 GATCAGACTG AACCATATA TCAGCGAGGT ATGGTACGAT TTGGGCACTT TGTATGAGAC 60
 ATGCAACAAT CAGCTCAGCG ATGCCCTGGA TGCATATAAA CAAGCTGTTC GCTTAGATCC 120
 50 GAATAACGTC CACATAAGGG AGAGACTAGA GGCTTTGACT GCCCAGCTAG CCAACCCAGG 180
 GGGCCAGCAG CCTCAGCAGC AGCCTCAACA GCAACAGATG CAACAGCCTA GAGGGCCAGC 240
 55 ACCCATTTATG TTGCAGCCAA CATTGCAGCA GCAAGACCAA ACAAATCGT TGAATAACAA 300

ACCTGGGTTT TACCGGTCTT CTCCCCACGG AGTTGGGGTT GCGGAACAG AGTCCGCAGG 360
 5 CCACACACCA ATGTCCAGGAC GCGCTCAGCC GTTCGAGCAG TTGAACAATA ACGGAAGTAT 420
 CCTGGAACCG TCATTGTGTC CGCAAAGAG GCGTATGGAG GGTGGAATGG ATACATTGGT 480
 10 AAATGCCATT TCGCAGCAGG AGTTGCAGCA ACATCAGAAG AACATATGC CTTCTCAGAA 540
 CCATCCTAGT TTGGCCCTCG CTACAGGACA GCGCGAGCAG TTACCAACCG ATGCCGCTCC 600
 15 CATAATACCG CCGGAAAAGA AAGGTGGGCG TCTCCCCCAG TTTCAGAAAA CTGAACCAGA 660
 GCATGGCGCA AAAAGACTGA AGCCCGAGCA GAATAACGT 699

(2) INFORMATION FOR SEQ ID NO:816:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1519UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:816:

GATCAGGTAT CGGCCAACAT ATCGCGTCTG TCGATAGCGT CGAAGATTAT CGTGATAGAT 60
 45 ATAGACTATG AAGTGACCGA CGGCAAGGTG ATCGATGTTA AGCTGGTGCT GGCAAGCAAC 120
 TTGACAAGT TTGACTACTT CAATGGCGAG GCGAACATCC TCACCGGTC ACTTACCAGC 180
 50 TATAGCGACC TGCACGAGTT CCACCACAAC CTGAAGTTCT TAACCTACT CGACCGGTGC 240
 TCAAGCATCG ATATCGAGTC CAATGTGTG CAATTGATT TGTTCAGTA TTACTCGATG 300
 55 CTGCGGCAGT ACATGCAGAG CTACCTGGAC GACAATGGCG CGCAGCTCAC GGTGCAGACG 360

AACCTGAACG ACCGTTTITGG GATCTACTTG CTUGACCATT CCGAAAAGAA GGTGGCCAAG 420
 CTGACATTTG CCGCTACGCA GGACCCGAAC CAGGGTATT ACCAATACAA ATACTOGAGC 480
 GAAACGAAGG AGTGGATCAA CCAGTCGGOC GAGTCTATA CGACCGGCAT CAGCTGGTG 540
 TTCGAACTTC TCGGTGACCC TCCGACGTAC CTGCTAAGG ATAGTTTGGC GCGAGAACAC 600
 CCTGATGAGG GCTTCAAGAG TCTTCTGGG TCCGAGCTGC AGCGCGCTT TGCATCAAG 660
 TGTCAAATC CACGAGTCAC CCTGTAAAT GACTTC 696

(2) INFORMATION FOR SEQ ID NO:817:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1520RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:817:

GATCTTCTGG ACCCTTTCTT TGAGTTGGTT CATCTTGCCA AGCAGTCCA CGTTGGGGTT 60
 GCGCGCAAAA GAGTTGAGCA TCGGCCAAG GCGGCTGCA ATGCGGCCAA ACTTGTCTAG 120
 CACCTTCGTG AGGTAGTTG GGAGCTGCAA AAAGCGCAAC GTATGGCCCG TGGGCGGGT 180
 GTCAAAGATC ACCGTGTGCA AGTGCTGCC GTGCGCTGC TCTGCTTCT TGATGTGTTT 240
 CATCACCTCC ATGAACGAAA GCGCTGTGTC GATGCGCGA ATCGACCCCG TGAGATCTGC 300
 GAGTGGCGCG CCTGTAGCA AGCCGAGAG CCGTCATCA TCGCGCGGT TCGGATCGC 360
 CATGTGTTTC AGTCTTCA AGCGCGCGA AGGGTGGATT TCATACAG ACAAGTTGTC 420

CATGCCCCGTG ACCTTGGGCG CGTCTTCC AAACCTTCTG TTGAACGCAT CGCTAAGGTT 480
 5 ATGCGCAGGA TCCGTGAGA TCAAAAGAAA CTGCTTAGTG GGCTGGGCAA GCGCCATCTG 540
 GATGGCAATG GAGCAAGAAG ACGTGGTCTT GCGCACACCG CCGTTCCCGC CGACGAAAAT 600
 10 CCACTTGTGT GTTGTAGAGT TGATCAACGA GCGCAAAGAG GCGTCTGGTG TAATATCAGT 660
 CATGGTGGT GTACCGGTG AATCTGAGAG TGCAGGCGAT CTGAGATCTT 710

(2) INFORMATION FOR SEQ ID NO:818:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 685 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1520UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:818:

GATCAAACAG TAATGACTTT GTTAAAGGTT TTGAAGTACT GCAAGAGCTG CGACTCTCA 60
 CTGCCCTGTG GCGCCACAAG CGCCGAAATC ACAGCAACTT CGCTTTCAA CTGAATGGCC 120
 TCCTGCATGT TCCGTGGGAA CCGAAGTAGC ACGAGGCTGT CCGAGGCTG GCACACTTC 180
 TTCAGATAGC GGCCCATCAA CGCAACCAGC GCACCGTTGG GCAGGTGGC CGAGTAGTCA 240
 TCGCCATGCA CAGCATGCAA CTCTCTAAT AGCGGTGGT ATTGTGCTG CTGTGGGTG 300
 CGGAACGCT CAGCGGCTG CTGCAAGGT AGGGGCGGG CCGCGCTG CCGCGGATC 360
 TTCTCTACGG GCACATGGC AAGCAACGCC AGCACCTCA GTCATCTGG CTGGAACAC 420
 55 GTCACCGGC GCTCAGGC GGAGGGACC TTCTCGAAT CCGCTTGGT GAACTCTGT 480

TGGGGCTTGC TCCGGTCAAT CGACTTCGOC GCGTGCAAGA AGATGAGCGT GGTGAOCACC 540
 5 GCAAGGCCAA CCATCTTCCA CCGGCTAGGT AGATCTTCCG AACGAGGGC CTTCCTGGCG 600
 TATGGCCGA AAAGTCCCTG CTGACGCGC AGAAGGAACA ATCTAGGCTT ACAAGTCTGC 660
 10 GAAACATTG TCCTGCGAGT TAGCC 685

(2) INFORMATION FOR SEQ ID NO:819:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1521RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:819:

35 GATCGAATCT KGTCTGAGG TCTTCCAGA WTTGCAATGC AATCTCGGA TATCCGCCCT 60
 TCTGTAGATA CGAGATGATG TTCTGGCCCA CAAGTTTGA CGTACGAATG AGACGCAAGA 120
 40 CTTCAGGGAA GTTCTGTTC ACCAAAGCTT TCTTAAAGCG GTACTGGTT GGTCAATGG 180
 TCAATATCTC AATATCGCG TCTCTGTTC AAGCATATAT ATGCTTGCCA TGAGCTTTGG 240
 45 TAATGTATAG GGTCTTCTC AAAGTTTTTA TGATCCCGCT GTCACCATTC AATAGGCAGT 300
 ACTWAATATG GTTCAAAGTA GACAAGAGCA GAACACCAGT TTCATCCCAC GCGCTGACT 360
 50 TGATCTGAT CGTCTCATGG TTAGACGTAG TAATCTCAA CTTCCTAGTA GCAATGGTCA 420
 GGGTGTGTTT ACTCATPAA GCAAGTATT GCCCATCTGG GGACCAGACT GCATATTTAA 480
 55 CCATCTTCAG AGCTACCTCC GCCAATTTTT TCCCCTGCTG CAGGTGGAAC AAGACTACCG 540

CCTTTGGTTT CAAGATGAST ACCGCACCAG GGCTCCATA GACAATGTCT TTAACAGTTC 600
 5 CTTCATCTTT GATCGATTTC GTTACCTTGT TGTCACACC ACGTACTTCA AGAGATTCCG 660
 ACCGAGAGTT GTAGACAGCG TTACCTATGC CGAGCGACAA AAGTCCCAA GCTTCCCTTA 720
 10 TC 722

(2) INFORMATION FOR SEQ ID NO:820:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 577 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1521UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:820:

GATCCACTTC CCAGATTACA TGATAACATC GAAGCGAAG GTCCCAAGGG AAATGTTGGA 60
 35 GCAGTATGAC TTTATTCATA GCGGCTTCAT CAGCGTAGAC GGCAATCAG AAAGCTCAT 120
 CTGCGGCATG CCGAAGAAGA CCACCGCAG TTTGATCAGC TCATCGAAG TTTTCTATA 180
 40 TGGCAGAGCA GCGTCAACA TGAAGACAAG CAGAGGCCCA GCGTCATCA CCGCAATTGT 240
 ATTCATGTCA TCTACCCAGG ACGAGATAGA CTACGAGTTC GTGGGGAGCG AGCTCCATAC 300
 45 TGTCAGAGG AACTACTACT ACCAGGGCGA GCTCAACCAC TCGAGAATGC GCGGCATTC 360
 GCTACCTTCC AACAGCCAGG AGGAGTACCA CATATACGAG GTTGAAGTGG ATGCCGAACG 420
 50 CATCCACTGG ATGTTGAGG GCGAGATAGT GCGCACTTG TTCAAGCGCG ACACTTGGA 480
 CCGGTCCAC AAAATATACA AGTATCCACA AACGCCCATG ATGCTCCAGA TTTCCCTCTG 540
 55

GGCCGGGGG ACCCCCGATG CGCCGCAGGG CACCATC

577

(2) INFORMATION FOR SEQ ID NO:821:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1522RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:821:

GATCAAAAGC GAACAGGGCA CTTATGTCTT GCCCAACCGA CGGTGCTCC TGAATACCA	60
ACGAGCACTC CCTGGCTGC TATCTGGGG TATTCTGTCA GAACGATGC CGCTAGAAAG	120
TTACCAAGCG CGTCACACT GTATTCCCTG CCTCTCTCT CGGCTTGA TGTCTGGCA	180
AGTAGTTCTC CAGTTCTGC AGCTGCCACT GGAACGTGC AAACCAAAC AAACCTGACA	240
CCACTTCTGT CTCTGATCG CGTCCAGCT CCAGAACTCC CAGGCAAG ATTTTGACTA	300
TAGCAACCCG CGGACTAGC ACTCAAGAAC TTCAATTTT CGCTTGAGCC CGAAGTTGT	360
TTTGAAGAT TCTGACCTAT CCTCTATCG AGCTCAGGA CACAAATCAC ACTATAGTAC	420
CTCGAACAAC AGTACAGAAA AGAAAACCAG CTGCTCCAGC CAAAATTCAC AAGTCCCGTT	480
AGCTGCTAAG GCCAATTGGT GATACTCAGT CTCTAATCTT TACCAATTG CGAAACTTCA	540
CCAAGGAGAG TCTTGGCTCT TAAGGTTTGG CAGTTTGGTT TAAAAATTTT CTGCAAGAA	600
ATGTCAGAAT GTCTGGGTTT CCTTGTGGG TCAGTGGGT GTGGTCAAG TGGGTGCTAA	660
TCAGTGACA CGTGGATGAC GACTGAGCG GAAATTTGC AGGTT	705

(2) INFORMATION FOR SEQ ID NO:822:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1522UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:822:

GATCGACAAT ATTCCCCCAC CAGGCGCAAG AATCGAGTGC ACACAGGCCA CGCGCGCATC 60
 CGGCTCGGA TGGCGGGGC TGGCTGCAG TGGCGGCTG GGGGCGAG CACTACCA 120
 CAGTGTCTG TGTGCGGG GGAAGGCAC GCGCGCAGC TGGGCTGC ATTCCAGCCA 180
 CGCATGCAG AAGAGCGGG TGACACTGCC ACCGCTGGG TGGCTGCTGC AGTCCAGGG 240
 CTACATGGG TTCAACAAG AGCGCGGGC CGTCACGGC TGTGTCTAG GGGGACACA 300
 TCCGAAGGC CATTACGCC GGCACATGCT GAGCAGCGG GTGGGCAAG CGCGTGTA 360
 CGTGGGGGC CAGAGCGGT TGCTACGCT GGGGAGCGG ATTGCGCGG CGCTCCACC 420
 CAAGCCATG CATGCTGG TGGGGGGA CGCGCAGTG CGCGGCGAG TGCTGCCAT 480
 CGTGGGGCC GGGCGTCC AGCTACGAA ACGAACAAGA CATGCTGCT TTGTGGCAGA 540
 CGATGTACCC GTCCAGCAC GCTCAAGAAC ACATGCTCAT CCACAGGCG GAACTGCTTT 600
 TCAGTGCAGT TGGCCCGGT GCTCCAAGG GTTCAAGTC AGGAGCAATA TGAACGACA 660
 TGTGAATCC CACAAGCCC CGCTGATGAA GGAAAGCAAG AAGAAATCCA GTTCTCCC 718

(2) INFORMATION FOR SEQ ID NO:823:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1523RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:823:

GATCTTATCT AAACCGCTCC GCGATGATGC TTTGGTAGCA ACCGAAGCCC GCATTTCAAA 60
 GTCAACATCA GCGGAAGCTT GGATAGATGA GAAATCACA GGTTTCACAT GGGGCGAGAG 120
 CTGAATTGGA TTCACCGCTT TGCTATCAGT GGGTACAGG CGTTCACTGG GCTGTTCTGA 180
 ATTGGAAGTT CTGGAGCTAT WCGAGGGGTT ATGAGCAAGT CCAAGTTGCC GCGTAAAAG 240
 CTGATCCTGG TAATACTGGG TGTAAATCAC GCTTTTCTGC CAGCAAAAAG CTGGCGAGTT 300
 TGGAACTTTT CCTTTATCGG CGACGTCCGT GCGTACATGG CGTTCAATGG TATTTGCTGA 360
 TGTAACTGTG GGGAGAAGTC GTAGCGAATG TCTAGATAAG GTTGACCGTG AAAAGCTATT 420
 ACGTTGCAAT AGCTGGGGTT GAGAATGGTG TACTTGGGCA CAGCAAGCTG CTGGGCTGCA 480
 TCTGGGTGAG CTATTAAAAA TCTCGGCAC CGAATAGAAG AGCATCTTTG GGTGAGCCCG 540
 ATTCAAGTTC ATGAGATCAA CAAAGGATAA AATCOGGAGG TTATCAAGG AGAATTGTGT 600
 ATCATAAAG AGCCAATCAT CACTGCAGTT GGCTATATTT GGATTATGT GATATTGCT 660
 CACAGCAGTG TTTATCCGTT CTTTTTGGCA GTCATATACC ACAATGATT GT 712

(2) INFORMATION FOR SEQ ID NO:824:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 649 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1523UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:824:

20	GATGACAGA ATGAGCAGAG CCATTCTGAG AAAGCAAACA CGGCCCATTG CCGTCTCTGGG	60
	ATCCCTGCCA CAGAGCGAAA TGGGCCCAGA AGGTTTGTAC TCGCCGATCA AGGATCATCT	120
25	GGCCTTAGCG CCATGCGAGC TAGTAAAAGG ATGCCATGGA TGCTGGTGGG AAATGCGGTG	180
	CGACTGGGCG AAGACATGGA TTTTATCAAC ACCAGCTCCA AGATATTGGT CGCAACACAC	240
30	ACTTGGGAGA CGAATTGGCG AATGAACATG GGTGAGAACA GTACATTATC CCATTCTCTG	300
	ATGAACGCAA ATATTATAGG CTCAGAGTCA AGCAGCGCCA TTAGCAATCC ACCTATGCCA	360
35	TCTGAAACTG AGGAACGTTA CAAAAGTGTT TTACAGAGAC TGGGTAAGCA TGTCCCTGGG	420
	GGTAGAGGCC TATCTCAGCT TTATAATGAG TTTTGGAGG ACGAGGCCAT CCTCTACGGC	480
40	TTAGGTGGTG GAAGTGAATA TGTTCAGCA TACTGGGATA GTTTGGATCA AACAAAAAC	540
	AATGTGAGCA TCGAGACTCC GTATGAATCT TCTTTGCTAG AGCGCGGGGG CCAGCAGGTT	600
45	TTTCTGTCTT TGGCCCAAG CCGAAGATA GAGCTACTGA GGATCATGT	649

(2) INFORMATION FOR SEQ ID NO:825:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 660 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1524RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:825:

15	GATCTTTTGA AACAACTGAA TTCTCTGGAA TCGAAGTGGG GTGACTTGGG CAAAATTAAG	60
	CAGGACTTAC TGGCCAACAT GGGGACGAAA GAGACGGACT TCAACAATGG ATGCACCGAC	120
20	TATGAAAGTA ATATAGTTGA ACTTCAGGGT CAACTATCAG AAAAGTGCGA CGCTACAAAC	180
	GAACGCTCTG TCACTTCAAC CTCTGCGGAT GTACCTGGAG AAACCAAAGA ATATATTGAG	240
25	TCTCTCAAGG AAGTCAACCG TAGACTGGAA GAAGATATGT TTGCTGTTTT TCGGGGGAAC	300
	ATAGTGTAC TGGAGAACAT CGCCTGCTT CTTTCTAGAG GCGCTGACAA CAAGTTACAG	360
30	ATTATACGGG TTAAGGTTT AAGGAAAAAC ATAGATGATA GTATAATAAA GGACAGCAGC	420
	CCTGTAATAA ATTACATAT GGTGAAGAGC ACAGTTTTC AGGATGTGAA GAACTTATTT	480
35	GACGAGCTTC AACTGAGCCA AGGTGTAAAC GACCAACTCC ATTTTGTTAG TGAGCTGGAA	540
	CGCTTTTATG AAGAGGATCT ATTTCAACT TCCGTGATCA AGAGGTTTAC CGATGTAGAG	600
40	AACCTGGCTA AGAGCTCAGA AAGGAAAATA AGGCTAAAAA AAGCGTATTG AAAGACACCA	660

(2) INFORMATION FOR SEQ ID NO:826:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 671 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1524UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:826:

10

GATCTATCGA AAGTGTGAAG CTCTAGACA AGTTCGTCCA TCCCAAAACC GGGAGAACTT 60

CTTTGTGCTA CCGTATCAAC TACCACTCCA TGCACAGGAC TGTACCAAT GCGAGGTCA 120

15

ATGTCTTACA AGAGCAGGTC AGTCGGGAAC TAGTCAGGCT TTACAAGTT CAATTGAGAT 180

AGCCCAATCA GCGGAGACT AATAAACTTG TATATACAGC TTTGCGGACA TGCACCCAT 240

20

GTAACGTATA GTATGATATC TGCTTACTCA TATGCGACCT GAATGCTAGC AGACTTCGAG 300

AAATGCTTA ATAAGCAGCA TATCGGATAA CTAGTGCTA AAGCCAAGTT CTGGATCTT 360

25

CACAGCTAAC CGTTTTCTTT TGCTCTGAT GCGAGCTACA AGAATAGCAA TCTTTTATGG 420

ATCTGAAACC GGTACTGCAC AGGATTTGCG TAATATACTG TCCACCAAC TAGTCGTTT 480

30

TCATTACAAG CATACGGTGT GCTCTATTGG AGAATATAGT GCGCAGAATA TCTTCGCATG 540

TCAGTACCTA TTGTCAATT GCTCCACCAC CGGCGAGGCT GCGCTGCCCC AAAATGCGCG 600

35

GCAGTCTCCG CAGGCAAAAG TGAAGGTAC ACCATGGAGT GTGCTCAAAA GAAGCTCTCT 660

CCACCAACT C 671

40

(2) INFORMATION FOR SEQ ID NO:827:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1525RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:827:

5 GATCTTCTCT CGCTGGAACT GGTGATGGGT CCAAATTTT AACTTAACAA TTTTTCACCT 60
 TGACCTGGCC AAGCATCTAT ATCAGTGAT TCCATCTGAC CAACCTCATC CCAAATGCAG 120
 10 GGCATTGGCT GCTGCATTAA CGGTCTCAGT GCGCGGCTAG AGAACTAGCG TTACGCTTTG 180
 GGGTTTACTA GCAAGTGGCC GTGCCGTGGG ATTGCAATG TGGGGGGCCA CCTTATCCAC 240
 15 GCGACACAGA AGTGGGTATT TCGCTTGTT TACATAGATG TCAAAAACA GTACGGGCAA 300
 AGCACCAGC AAGCTTCAGC AAGACTCAGG GAGTGTTAG AGGCGATAAT CCAATCTGTG 360
 20 CTGAATGGAG CAGGCGAGG GACCAAAGTG GATATTTGCA GCGGAAAGTG AGACGATGGC 420
 AGCGCAAGAG GGCAATGGAG TAAACGGGA CCTGGACGGC GGCATGCAGA AGACGTTCAA 480
 25 CCGGTCAG CCGCTGGACT TCAACGTGAA TTTCGGGGTT TACCGGGGCA AGCGGGGCT 540
 CCGGAGACC CTGAACTGGC GCGCGCGGG GCAAAGCTC AGGCTGGAG GAGGACACAG 600
 30 ATAGCGAAGC GAGCGGAGC TCCAGCGGG GCGCGGGAG TCCAGACAG TCTAGTCTGG 660
 AGCCCCGAA GTTGGACCG TGTGTGAGC CTTCGGGGCT GAAGTCGTG CC 712

(2) INFORMATION FOR SEQ ID NO:828:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1525UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:828:

5 GATCATCGCG ATTTTCGGTG GCGTTGATGA GAAAGGCCCT CACTTATACA TGCTTGAACC 60
 AAGTGGCGCT TACTGGGGTT ATAGAGGAGC CGCTGCCCGA AAGGGCAGAC MAGCCGCTAA 120
 10 AGCGGAGCTG GAGAACTGA TTGGGAACGA TAAGTCAGAG CTGTACAGTA GGGATGCACT 180
 GAAAGAAGCG GCTCGGATCA TCTACGTGGC CCATGAGGAT AATAAGGAGA AAGAATTGCA 240
 15 AATTGAGCTG AGCTGGTGCT CCGCTTCGGA GACGGATGCG TTGCACAAGG AGGTACCAAA 300
 AGAGCTATTT GATGCAGCGA TTGAGTTTGC GAAGAAGGAG ACCGGTCAGG AGAGTGATGA 360
 20 TGATTCAAGC GATGACAAAG CATCTGGAGG TGAAGAGTCC TCAACAAAGA AGGATGCTGA 420
 CGGTGATGTC CAGCTTTCAT GATAACAGCC CGGCATTATG TGGAGGTTCA TTTCATGACA 480
 25 ATTGACGGAT GTTACTAAGT GTATATTAAAG TTAATCCACC TATATAAATT AATAACATGC 540
 AAAGCAATTT AGAATTTGTC GGAAAGCAGG TTAAAGCAAT TCTACTCTCC TTAATCTTTC 600
 30 GCGAAGCTGT ACATTTTCTT CTCAAGTGAA CGAATTCAT CCACCGGCTG CGTCTGATTC 660
 TAATTTCTTA CGTTCCGGTT CTGTGTACCA TTTCGGCGTC AGC 703

(2) INFORMATION FOR SEQ ID NO:829:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDELNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1526RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:829:

GATCTGGCCG CGACCTTGAG AGGCGTCTGT ACCTTCTTTC AGCACAAC TA TTGTGGGAGC 60

5 TTGGTTTCCA AAGTTCATCC TGAGCTGGT GGTGGTTCAG ATATGGTGG TGATGGCCTC 120

GTCACGGTCT GTACGCTTCC TGTACCGACG ATGACGGCAG TTTTGGCCAC TAGGCCATTT 180

10 TTTTTTTCAG CTCTAAGATG GCAGACGGCA AGGAGAATGC TCCAGGACAC CGGATAGAGC 240

TCCAATCTCA GCAAAACATC GCTTACTGGC CCATTCTGTC TGCTGCATAA CACTTCTATG 300

15 GCTTAGTTTG TGCAAGTGGT CGGCGCTTCA CATTGTATCT CGTGAATTGC GTACCGGTAC 360

TATATTACGG TTGTGTGGCC GAGCGGTCTA AGGCGCCTGA TTCAAGTGTG TGCTTACAGC 420

20 TGTTCACAGC TGAACACTCA GGTATGTGTA GATCAGGAG TTGGAATCTC CTCGCAACCA 480

ATATTTTTCG GGGCGTTTTT GGGCGGCCAG CGAAACTGAA CCGCACACTA TTTCGTGGTA 540

25 CCGTTGGAGG TAAACTGTG GAATCCGACA GTGGGGTACC GAAACCATCC CAGCCTCTTA 600

TTACTAAGCT GGATCGTCA CTGCAAGCG TGATATTGGA ATCGTCCCA CGTATTATTA 660

30 CTAAGCCGCC ATCTTGCCGG CCATGAGGAG GGTACCGAAA ACCAATCCCC AATTGCAAT 720

ACTAA 725

(2) INFORMATION FOR SEQ ID NO:830:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1526UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:830:

GATCTTCACC AGGTCCCGG TCTTCGGGAA CGTCTTGCCA TGGCTGGCG ACAGTCTGTC 60
 5 GATCTTCACG TTACCTTCGA TTACCTCCGA CATGCTCGTT GCTGCTCCCG TGGCTGCCCG 120
 AGAGTGATCA AGTGGGTGTT ATTAAGGCCC CCAAGGCCAC CCGCTGGCC GGGTAACAG 180
 10 TCCCCCGCG CTCGCGCGG TGGGGCTGTG CGGCCCGGCC GCTCCATGCA CCGGCACCG 240
 GCGCGTGCA CCGGTGCGC GCACCTTGCG CCGCGCGCG CGGCCACTGC CCGAAGCGT 300
 15 AAACCTTAGTA CGCAACCGC CAGCGCCCGT CATAGCATA GAGGOCAGA CCGGGTAAG 360
 CGGTAGCCA GTGGGAATG CCGGCACGAT ACCTCTTAG GCAGGACTT ATTTAAGC 420
 20 GTACAGGCGC GCAGCCATC GTGCAGCTG CAGTAGCAAG CTGAGACAG CTGGCAAGT 480
 CTAGACCTGG GACACAGCC GCAACCTAGA GCGCGCGTG GCGCGAGGC GTCAGACAT 540
 25 TTGGTGGA GCGCGGTG CAGCAGGACA AAGAGCCCG AGAGAAGCAA ATGCMCACT 600
 AAACGGGAG GAAGGGCAG CGATTCTTT TTGGCTTCT GTGCGAGTG GAAATGTAT 660
 30 AAATAATGG AGCGGGGCT GGTCTTGCG CTTGAGACTG T 701

(2) INFORMATION FOR SEQ ID NO:831:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1527RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:831:

55 GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GCGGCTTTTC 60

CAATATTTTG AGCGTCGTGT CATAGCTCGG AAGAAGCAGC AGAAGCCCCC CCAGTAGTGT 120
 5 CTGTTCATGT TCGCTCATGA AAGGTGTCTC TATCAAATCT AGCTCCATCA TCGCAGAGTA 180
 GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCCGCAAC TTCTGCAGGA TTACAGTAAA 240
 10 ATAATGGTAG AACCGCGAC TCACAGAAGC GACGACCGCT CGAAATGAAG TCGGCCCGTA 300
 GAAGATCGTG OGGCCCTGCT TCTCTATCAC AAGATGGAAC TCGGAAAGTC TGTTCACGGG 360
 15 GGACACCGTG CCCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420
 CCGCGCGAGC TCAGTCTCAA GCTCGTGAT CGTGGCAGC AGCTCCACAT TGGCGTGA 480
 20 GCTGAACAGC TCCCGTGAGT TCAAGTCGTG CGTAAACTCA GACAGGTACA CAACTCGGG 540
 CAGGCCCTTC CCAATACATG TATAGCACTT CGGCCGCGCC TTGTTCGACT TGACCGCGCG 600
 25 CTTGGGGCAG AACAGCAAG ACTTGTGAC CTTCCGCTG GTTTCACAA TCTTGCCATC 660
 GGACTCTGCC ATCCCGCCAG CTTCAAGCAA AATGATTAGG CTATA 705

(2) INFORMATION FOR SEQ ID NO:832:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1527UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:832:

GATCGCGGAC GTGGAGCACT GGCAGAGAT GCGCGCGGCC ATCTGGTGG TTTCTGCGA 60
 55 CCGCAAGGAC ACGCCATCGA CGAGCGGTAT GCAGCAGACG GTGCACAGT CGGACCTCTT 120

CAAGGAGGCG GTGCGAGCG TGGTGGCGG GCGTACGGA AAGATGGCG CCGCGATCCG 180
5 CCGCGCGAC TTGCGAGGT TTGCGCGCT GACGATGAG GACTCGAAT CGTTTCACG 240
CACCTGCTG GACTCATTT CCGGATCTT CTACATGAAC GACACTTCG GCCGATTGT 300
10 CAAGCTGTG CATCTGATCA ACGAGTTCTA CAACGAGACC ATCGTGGGT ACACGTTTGA 360
CGCGGGTCC AAGCGGTGC TCTATTACTT GCGGAGAAC GAGCGCGGC TCTGGGCTT 420
15 CCTCTCTCC GTCTTTGCG CCAAGACGG CTGGAGACC AGTTCTCGA CGGACAGCG 480
CGCCACCTTC GCGCGCGAT TCGAGAGTG CGTGGCGGC AAGCTTCCA CGACCTGGA 540
20 CGACGAGTTG CACAGAGGAG TTGCGCGCT CATCTTCAG AAAGTGGG CCAAGGCCC 600
AGGACACTAA ATCTCGCTC ATCGACCCG AGACGGGCT GCGGCTGAC GCTATCTCC 660
25 TGCTATTTT TGCTCTGTAT ACGTGGCAG AACGGCTAT ATATATAGAA TATGCATT 718

(2) INFORMATION FOR SEQ ID NO:833:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs
(B) TYPE: nucleic acid
35 (C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1528RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:833:

50 GATCACTGTA TCGAATTTGA CACCAAGGA AGCCAAAACA TGTGGGCGG ATCCCGACAA 60
TGCGAACAT ATGATATCG TTTCTGCAAG GATGCGTCC TGAGCTTTC TCTATTCAA 120
55 TTCTCTATT CTATAATTCA CGCATTCCT TTCCCTCAG TCATCGGCT GCTTACCTAG 180

CTCATTAATC TTCTTGCTCA AGTCCCTCAA CTTTAGCTGT ATCTTAGATA TCTCATCAGT 240
 5 TGAGAGITTA CTAGTGGGCG AACCATCCTC TTTATTCATC ATATCCCTGA GCTTTCTCCT 300
 CTCGGCTAAG GCGTCATGAA AACTCTGATC TAAGTTGGGA TCGTGATTTA TTTCGTACGA 360
 10 CTGATTCAAA GCTCGCTTGT CAACCAGCTC TTCCAAGGTT AGGTCTCTGA TAGCAGCGTT 420
 AACTGCATCT GATTTAACAA TCGCACTAA TTTTGGTTTG AACAACTTGC CGTCAGTATC 480
 15 GACCAAACCT TCTCTCAGAC GCAACACAAG CTGTCACACG GCTGCATTAC TGGGTGCACA 540
 TATCAGAACT TTTTGTCTCT GTAGTAACAT CTCAGTAGAG GTAGCGTTGG ATTCTGTGGG 600
 20 AATTCTGATA ACAATTGATG GTAGTGCTTT TCGGTAGTT AGGAAAAGC CGACGACACC 660
 AAGAATAGTC TTAGTCTTAC CAGTACCAGG GGGTCCCTGG A 701

(2) INFORMATION FOR SEQ ID NO:834:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1528UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:834:

GATCCAGCAT TTGCGGTAA ATCGCGGTAT TCCGCACGG AAGGTGGGA GCTTCAACGA 60
 50 GTTGATCTGC ATGTGGGGG CGCAGATGGT TCTTCCACTG CTGCGAGACT TTGATGCGTG 120
 CAAAGTATCA GATGCTGTTA TTCTGGGAT GTATGAGATA CTGCTGAATC CGCAGATGCT 180
 55 CCGGTGCTCG CCGGAATCA AGTACTACTA TGATCTAGCA TTCAAGGGCA TGTATGAGAC 240

GGGACATGAG CTTTITAGACC ACACAAAAGA ACAAGGTATC AATCTGCTCG TACCTGGAGT 300
 5 CGTATATTCA CAGATGTACG GCTGCCCTGA ACAGAGTTCT TGGGCAACAC GTCTCTTGG 360
 GCACTTCTTC GAGAACGAAT ACTCAATCAC AAATGAAAAC GTGACAACCG AACTGCTTGA 420
 10 CGAAATCACC TATCATTTTA TTCAGTTACA GTTGAGCAGG AGCAACAGCT CGTATTGAG 480
 CATGATTGGA CTATTCTGGA GCAAGATGTG CCGTTCTTT GGGCTGATGC ATGTTGATGT 540
 15 CITAAAGGAG TACTTTATTG AGCTCAAGAA TATTAAGTCA TTGGGTCCA CGACTAATGT 600
 TCATATGAA TCIGTTTICA AGGTATTTTA TCACCATCTC ATAATGCAGG TAAGATCAAA 660
 20 ACCGTTGGAT ATTCTGCTCC GTATTTTGAA ATTATCCTGG AAAAAGTAGG G 711

(2) INFORMATION FOR SEQ ID NO:835:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1529RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:835:

GATCAAAAAG AAGGCGATTG CTATGGGAC GGTGACTGCT GCTACCGCG TCTACGCTCT 60
 45 ATATCCTTCC TCTCGGATGT TGGTGGACAG CTCGGGTTG ATCAAGCTAG AAGGCACCAT 120
 TTCTCTCAGT AGCAAAGGTG CTAATAATGA TACTGATGTT TCATATTAC CAGAAAACA 180
 TTCTGCTGTT CCGGGCTACA ACACAATCAT TGGTTTCTC GTACCGGCA TGAATGCCTT 240
 55 CAGGCTTTAT GGCAGGCCGA AAACACTATC GCGAGCAAG GATGACACAA ACTCACTCT 300

GTTATGCTTA CCAGGCTTC CACATGTGCA CTACTTGCTG GTCTAGGATT TGCTTCATT 360
 5 AGTGAATICA GCGTCTGGCT CATGGAGGAC GCAGGAGTGG CGGAGACAAA TCAAGGCTCT 420
 ATTACAACCG AGGGTAGCG CTGGCTATCA GGGATGTGGT TCAAGCTCCG GTCTATCCCG 480
 10 CGCTCTGTCC TCCCTGCTC TGGGTCCATT GAGTCTACT TCTTTGTCAT CGCCGCATTT 540
 TGCTCCGTCC ATTGGTTTT CGCTACTGA GTCCAACAC ACTTTTATGT CAAGTCACTC 600
 15 AAGAATAACT TCACTACATG ATAATATCCA GAGACCATAT TGAATACCGT GGCCAGCACA 660
 TCCGATAATA CWTGCAACC AAACAATATG CTATCTCCCG CAGGTCTTGC CCTGATGCA 720
 20 TT 722

(2) INFORMATION FOR SEQ ID NO:836:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1529UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:836:

45 GATCCCGCTC AATGCCAAGT AGAATGTTT TCGGGGGAGC CCATACAGTA CCGCTCTCTC 60
 CTCATCCCGG CTCTCTGCT CCAGCTCTC TGTGCAACA TCTAGAGTT TCCGATAAC 120
 50 ACTGGGGATG GTCATGCTCA CGCTCCGA TATCAGATC AGCACCAGG CGCATACTAG 180
 AGACTTGAGC TCAGCCCGG CCAATTGGAA CAGTCTAGC ACATCTTGG CACTGATGC 240
 55 GTTCCCGCTC GCGTCGACA GCTCGAGTCT TTCTTGGTGG GGTTCCTCTT CGTACTTGC 300

CGAGGGTTT GCTGTGAGT TTAGCCTCGT TTGAATTCCT GTGATGCGC TGAACGAAAA 360
 5 GGGGTGCGT TGATGTAGAT GATTGAACGG CGGCCATGCG TCATGCCAA TAACAGGCGT 420
 CGGCACCTGC TTAACAGCTA GCGATAGCCA CATATATGTT CTCTCGAGG TCATATTCCC 480
 10 AGTTTCTTC TAACCTCACC AGCCTTGTAG GCTCTCGAG TTGCTGTAA GTGGTGAATT 540
 TCGCATGCG ACTCATTTTT CATGGAGAAT AAATAATGT ATTACAAAAT AGAGATGCAT 600
 15 GGCAGCTAG TCGAGGCCAG CTACTATACA GCTCTCGAG CTTTCAGTT GTAGCGACC 660
 GGTTTTCGGC TCATGTGAC TACAACATTT T 691

(2) INFORMATION FOR SEQ ID NO:837:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAGL530RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:837:

GATCCCTCTG CTACAAACAC ATACCTAGAT TTTCATATT TTACTGAA TACATATAAT 60
 ATATCATTTA ACTGTCTTCA TTCATGAGAC GTGCTTAAG TTCTGTCTG CTCAACTTGT 120
 45 TTTCACATT GTCAGCTCT TCGCCCCCA GTACGTCAC CACATCCAG GCTAGCTTC 180
 TCATTCCTTT GCTCTCAGC GTATCGTTGA TTGTCTGGC ACCGGCCACA GTTCTCTAC 240
 50 TCACTACCAG GCTTCGATA CCAGGTTCC TACCGTGGG CCGGCACAG TCATGTAAC 300
 CAAATATTTT GATTTCAGC CCGGTTTCA GCTGTGAAG GAAGCTCAC AGTTATGCG 360
 55

ATCGTTGCTC GAAGGACTGA AGCTGCTCC TGTATTCTTT GTTCGCGAGC AGTTCTTCAT 420
 5 CTGTAATCC CACGATCAGC CCGGACGCG TCCAGAGGCG GGCAACACTG AGCAATAITTT 480
 TATGTCCGTC GTGTAAGTGG TCGAAAGTGC CTCCAGGCG GCTAACAGCG TACTTGTCTC 540
 10 TACCGCCACT CTGACCGGG CCGGACGCG CCATCGGCG ACTATCAAAC AGCTCTATCT 600
 GCGTGTGCG GAACGCATCC TCCAGCAGCG GATCGCTCAG GAATACAACG TCCCACTTCA 660
 15 TTCGGCTGTA CGCTTCATA CTGACGTGTA ACAAACATT TATCGGGTTC GTGT 714

(2) INFORMATION FOR SEQ ID NO:838:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 25 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAGL530UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:838:

40 GATCCTGGGA CGACATCGAC ACCATTCTTA TCGGTAACGA ACTTGTGAAC AACGGCCAGG 60
 CGACCGTGA CCAGATGGCT GGTACATGA AAAGTGGCG CAAGTGCTC GCTGAGGCG 120
 45 GCTACAAGGG CCAGTTGTT TCCGTGGACA CTTTCATGCG TGTAAACAAC AACCTTGGTC 180
 TATGTGACCT ATCAGACTAC ATGGCTGTCA ACGCCACCC ATACTTCGAC TTCCACACTT 240
 50 CTGCTGCTAT GCGCGGCCCT TGGGTTTTGC ACCAGATCCA GAGAGTCGG AGCGCTGCA 300
 ACGGTAACAA GAAAGTTGTC ATCACCAGAG CCGGCTGGCC TACTCAGGT CAGACTTACG 360
 55 GCAAGGCCAT TCCATCCAAA GCCAACCAGA AGATGGCCTT GGAATCTATC AAGGCACTT 420

GTGGTGATAG CGCTATCCTA TTTACTGCTT TCGACGACTA CTGGAAGCCA GATGGGCCCTT 480
 5 ACGGTGTOGA GAAGTTCTGG GGTATGCTAT AAGTTGCCGT GTGCTTCTTT ATGACCTGTC 540
 TCTTTATTTT GCTGGGAACC CTTACATCCA GATGGGGGT GCGGTGCAT GGGCCTGCAG 600
 10 CCTCCGGGCC TGCAAGTTTC TACATGCCCC TACTTTAGCT GCCACGGAC TTITGAATTT 660
 CTTTGGCAGG TGGTACTGCT GGCATCCTTC TCATAGAACA CAGTGTGCC ACAGG 716

(2) INFORMATION FOR SEQ ID NO:839:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1531RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:839:

GATCTGCATC CTCGTGATGG AAAATACGGC CATGCAGCTA ATTTTGGAAT GGTTCCTGCA 60
 40 TACCGTAAGA GAGATGGCTC CAAATCATAC CCAGTTACTA TCCTTGTGAC TAACTTTTCA 120
 AAGCCGACAC CTACCAGACC TGCTCTTCTG AAGTTGGGAG AACTCACAAC GTTCTTTTAT 180
 45 GAGTTAGGCC ACGGCATACA CGATTGGTG GGTTCCAATG ACTTGGAGTC GCTCAACGGG 240
 CCTGGGTCTG TCCCATGGGA TTTCGTGAG GGGCCCTCTC AGATGCTGGA ATACTGGAGG 300
 50 GCACGGCGTG ACCTTTTAAC TATGTATCC AAGCACTACG AGACAGGTGA GAAAATCCCG 360
 AAGTGGCTGC TGGATGCCTG GTTTAGTGTT GGCGGCTCA ATTCAAGATT GGCCAACCTG 420
 55 GGCCAACCTG AACTTGGCTT GTTCGACATG TATGTGCACA CCGCGATTG CAAAGGAGCG 480

GAGGTACGGA AATTATGGAA TGATCTCACC AGAGAGATCG GCGTCATGAA CTTAAAAAAC 540
 TACACTAGCA CCGGCTATGA CTCCTTTTGGG CATAATTATGG CTGGATATGC TGCTGGCTAC 600
 TATGGCTACC TTTGGTCCCA GGTCTTTTGGT GCAGATATGT ACGACACAAA GTTCAAGCCC 660
 AACCCATTCA ATGCTACGGT GGGTGTGGAA TACAGGGACA CTATTTTAGC TACCGGTGGA 720
 CTT 723

(2) INFORMATION FOR SEQ ID NO:840:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 692 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1531UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:840:

GATCCAATCC TGGAGGGGGG TTAAAGTCTC CTTCAATGCA GCGCAGCCCG CACTGGAGTA 60
 TGGCAAGGAA ATCGCACTCT GGAGGAGGCG CGTGGTTGGG AACTGGATCG TCCAGCTCCG 120
 GCAGAAAGGC CGTTTGAAG GCGCAGGCGA GGACCGGAAT GAGCATTAAAT AAAGAGGTAA 180
 CGTGCATGCT GTGAAGAGTT TCACTTTATG CGTTGCATTC CTCCCCCCT GAAGACGAAA 240
 ACACGGGCGA CATGGCTAT ATATACCTTT CGTGTCTACT ATTGTGGCT GCGCGCTCTC 300
 ATGTCAGTTT TTACTTTTGG ACCGCGGGAA GCGGACATCT GCCACAAGC ACCAAGGCC 360
 AGTGACGAGC TCTATGCCGC TTGCTCTGCC AATAACGAGC CCGCTACTAG CCGAGCATTT 420
 TGCTTAGTC CACCAGATAT TCCATTGTTA TGTGTGCTCG CCAGCCTCG GCTGGGACAT 480

AAAGATGGGA AGCTCTGTG CAAACCTGCA CAGCGCGGCT TOGAGAATAC TCGCAGGGA 540
 5 CCCCCCTCC CATTAGTCTT TGGCAGTTT TTGCTTTGTC CCGGATAAT GTATCTAAAT 600
 ACAGAATATC GATTACGGCG AATAGGCAAG TTTTGTGGTC TGACATGGCG AGTGTCAATT 660
 10 CATGATTACA TAATGTGTG TGGCATATCT GT 692

(2) INFORMATION FOR SEQ ID NO:841:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1532RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:841:

GATCTKTGA AAGAGTAACC AGGATCAAGC CTGGGTATA GCCAGCGAAA TATGCATATG 60
 35 AAGTCTTCT GGTGGGCTG TTCAATGAC TTCAGTGATA TCGCATGCC AGTTCTATG 120
 TCAAACTGC GGGACTGCAG ATAATCAAAT ATCTCTGCT GCAACACTGC CTGGTAGTTT 180
 40 TTGTACGGA GAGGTGGGG GTGGGGGTA CTCGCAGCG CACGTAAGC TGACGGACCC 240
 CCGCCGGAA CAATCGAAGG CGCTGGAA GATCCAGAC TCGCGGGAG AGACTTTGCG 300
 45 AACTCGGCA CAGGTCTGA AAGAGAGTC CGGCGTTCC GTGCCAGACT CTGTATTATC 360
 ATGTCCGTA GAGCAGGTT CGTCCAGGT AGCCCTTCT TGTGTGTT TCCACCAAT 420
 50 GATCGAATT GAGAGTGAA CTTCTGGGA TTCAAGCTAT TGAGCACACC ATTGGACCA 480
 CTTGAGCCC TTGCTCTGC CATCCCTAAT CGTCTATCC TACGGCGGC TAATAAGTTA 540
 55

CTACCAGACT CTGGCCCTCA TGTGGGACTG ATGTTATCGT CTCAGCCAG ATCTGTTTG 600

5 TGACCCGATC GAAATCATCG AGTACGAATA ACCACGTGAC CATTATTCAC GTGATGAATT 660

TGGCGGTCCC TGTGCGGAC TCTTACTCCA GGTTAACCAT GACTAGATGG GCATACCTCA 720

10 GA 722

(2) INFORMATION FOR SEQ ID NO:842:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 619 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1532UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:842:

35 GATCATCTGA ACGCTCATGA ACAGTTCGGG GAACATCGTG TCACGACTA TCACTGCTG 60

GATGTCTTC TGGCCGAAGT ACGCGGGTC CGGAGCAACA ATGTTGACCA GCTTAGCAAC 120

40 GACCGTGGC ACACCGCGA AGAAGCGTGG ACGGTTGGA CCTTCAGCA TCTGGCTGAC 180

GCCAAGCAC GACACAAAG GCGCGGCTG CGCTTGACC TCAGTGGGA TCGCGCGGG 240

45 GTACATTTCC GCGGGAGAG GACCAAGAG CAGTCCACA CCGGCTCTT CCAGCAAGC 300

GCGATCGCT GCCAAGTCC TGGGATAGG GTCAAGATCT TGTTCGGG CAACTGCGA 360

50 AGGGTTTACG AAGACTGAGA CAACAGTAAA GTGTTTTCC GCGCAGATC TCGCACGAG 420

CGTCATGTGT CCTCATGTA GGCAGCCAT CGTTGCACA AACCAATCG TCTGTGCTT 480

55 GCAATCTACC GTCTGCTTC GCCATTGGA GACTTCTGG ACCTTATTGA GCAAGTGCAT 540

GAGGGGTATC GCTTTGATGG TTCAGCCTTC AAGTTTGTCR GTGTGCATCT CACAGATTAA 600

5 GGAAGCTTGC GCACACTAT 619

(2) INFORMATION FOR SEQ ID NO:843:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 564 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1533RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:843:

30 GATCAAGAAC TGCATCATT CAAAGTCCAT CGGTGCGATA CGAAAACAAA ATGCACAGCC 60

GCTACCGACC TTCCGAAACC TCGAGAAGAT CAACCAGCCG CCAAGAACG CTGACCATGC 120

35 GTGGGAGTAC ATAAAATCGT GAATTATTGG GGTGTATGT ACTATATACT ATCGCTCTGC 180

CGCCCAATGA TGGTTACGCC TCTTGCAC TGATTCTGGG TGACGAGGTT GTCTCCGTAC 240

40 ACCTCTACTA TTCCAGGTT GGGGACACAT TCGCTGATAT GGGGAGCAA TTGTCTGCA 300

AACGAGCGGA CGAACCCTAC ATTCAAGTTC TGCAAGTTTG GACAGGACAT TAGCTGGAAC 360

45 CCAGCTGCCG TCAGGTTCCT GGCTGAGTTC AAGTTTAGCT CTTTGAGGAA TTGGAACAT 420

GGATCAAC ATATCTCCGC AATTGATGCA TCATCCAGCT GATGCCAGG CCTCAAGTTG 480

50 AGGTAGTGAA GTCCGGGAAG CTGGACCGAA GAGAAAAATG TAATGAATCC ATCGGACGTA 540

ACCTGGTCCA ATTCTCTAG GGAT 564

55 (2) INFORMATION FOR SEQ ID NO:844:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1533UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:844:

GATCCGGAGA CAGACGTGTA TGTGAGTTCT ACCCGTGGGC GCTGAAAGGC ACGTGGTTAG 60
CGCACATCCT GTGTGCTTGC ACCGGCCCCAG AGCAACCAAG TATTCTATA TTGTTGAAAA 120
CTGCGGTAAT AACCATGTAG AAGATTCCGC GCGCGAATAC CCGTTTACCC CCAATATGTC 180
CGTCATGTGA GCTATTGGAT CGAAGAGTTT TTAATGACGT ATCCCTATC ATAAAGCGGT 240
GCTGGATTAT TGGAGCATGC ATCTGGTTCA GCTGGGGGCT GCCAAATATA TGGTGCAAGA 300
AGAACTATC GTACCAACCC CGTCTGTTCT GACCTGTGTC CTCTTAATCG GCATGACTAA 360
TATGGGGTAT CCTTAAACC TTAAAGATGT TACCTCGGT CTCCAGGCGG GTTGTCTAGT 420
TTACAAGAGT AAATACCACC TTGCCCCCTGG GAGGGTTCTT ACTTTACAGT AGGAAAGAT 480
CGATACCACT GGTGGGGGGA TTGGGTATAT TTGAAAGAT GGATGGATG GAGGGCTCCT 540
TATTGACAGC AAAGCCACTC CGACAGAATA CCCACACTT GGAATTGGAA GCTGGGGATC 600
GACAGACAT GGTACGTAA TGAATTGTC CTGTGGGGCC GCGCTTCGG TTAATCAAGA 660
AGAACAACCG CCGGGCAAGC AGGGAATAT TGAATTAGT GCTGCCAAGC CTAATTATG 720

(2) INFORMATION FOR SEQ ID NO:845:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1534RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:845:

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GATCCACATT GGAATATGGG TATGGGACTT GATGGTTGAA CGCTTGGCTT CAACCACTGC      60
AACATGGCA AACCGTTTGA AGTCTGGAT GATTTTCTCC TTCTGGATCG CAGTCAAGAT      120
GTGGCCGAAT CGTTTTCGT TGTATAGGOC TTGCTCATCC TGTGCTTCAT CCTCATCAGA      180
CGCTAATGGA AAGTCTGGCA CAATCTCGAC CCCATCCAG GATGCGATAC TCAAGGTATT      240
GAGCATGTTT AAGGCATGTT CCGTTGCTAC TTAAACCCCT GCATCAACTT CCTCTCGTT      300
TTTCATAGG CGAGGGACAT CGTTTGTATC GTAACGAAAC TTACTTTCAA AGCGTTCTCT      360
CAGTATAGAA ACCACATTGT CTTCCTTCAA ATACTGGTGG ATAATATCAT ACAGAATAGT      420
CCATGCATTT GACCGGATCT TCAGGTATAA AGCATAATTG TCCTCTCGA TGAGGTGGAG      480
CTGGAAGTCG TAAGGGGTAC TTTCATCGGT GACATCCCTT AAATTGGGTA GTTTTACTTT      540
TAGAACTGAA CGGCGGAAAA CATCATCAAA GTGGTCCATA ACAAGTTGCC AGACGTTATC      600
CTGTGGATGG GAGAGTAAGT GGACAATATC GTCTCTAGTA TGTGTGAATT GGTACTTTTT      660
CGCCCTCAAT ATAATAGCTT TCATCTCCTT ACCAGCTCT CTTCGCGTA GTTCACTATC      720
TTCTCCA                                           727

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(2) INFORMATION FOR SEQ ID NO:846:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 682 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1534UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:846:

GATCAGGGTG GACTTGATCA TGGTGTGTCT CGTGGGGGCG TTGTGTAGGC GGGGGAAGCT 60
 GCTGCTGTCC TTGTGTGGGC CCGGGGGGGC GGCGATCAA GATGGGGCAC CAGGTGAGCC 120
 GCGGGGGGGG CTCCAAGACA CAGGGGCACA GCAGGGGGCG CGTGGGGGGC AATGCAGGGC 180
 GCACAGGTAT CCTGGGGGCT CGTACCGGTG GCTGCCCTTG GGCGATTGC GCTGTGAGC 240
 GGTCAAGTGA CCGGAGTAT GTTGCAAACC AAGCCATCGA TGGCATAGG AAGCATTAC 300
 CAGCGGATTC GAAAACCCTC ACAACCCGCC ATCTGCTGCT AGGACCAAGC CAAGTGCTG 360
 GCACTGTTG CACAGTGGTA AGGTCTTGCT TCAAAATAC TGTGCCAGG CCGCTCTCAA 420
 AACCTGTCAA GTCCAGAGC ACTGACAGTC CGTCAAGATG CGACATTACA ATGCTCTGGA 480
 AGCTCTGAG TAGGTCTCG CCGGGGTGCT AGACAGTCAG GGGCAGGCTT CATGACAAA 540
 GACGGGCAAG GATGTGCAA TTGTTGCA CAGTCACTC TAGGGTGGG CCGGAAAAAC 600
 AGCGCTACTC TCGTTGACT GGGGGAGAC TGGTAGCGG CTGGTGGGC TCAATGAGGA 660
 CAGACCAAGG TGATCATGAT AC 682

(2) INFORMATION FOR SEQ ID NO:847:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 663 base pairs

- (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1535RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:847:

GATCTTCTCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GGGCCCTTTC	60
CAATATTTTG AGCGTCGTTT CATAGCTUGG AAGAGCGAGC AGAAGCCCCC CCAGTAGTGT	120
CTGTTCAATGT TCGCTCATGA AAGGTGTCCT TATCAAACTT AGCTOCATCA TGGCAGAGTA	180
GTTATTATCT TTCTTCCAAG ACAGACCGAC ATGCGGCAAC TTGTCAGGA TTACAGTAAA	240
ATAATGGTAG AACCGGGAC TCACAGAAGC GACGACCGCT CGAATGAAG TCGGCCGTA	300
GAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TGGAAAGTC TGTTCACGG	360
GGACACCGTG CCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTTTCAT	420
CCCGCGAGC TCAGTCTCAA GCTGTGTGAT CGTGGCAGC AGCTOCACAT TGGGGTGA	480
GCTGAACAGC TCCGTGAGT TCAGTGTGTG CGTAAACTCA GACAGGTACA CACACTGGG	540
CAGGCCCTTC CCAATACATG TAGAGCACTT CGGCGGCGCC TTGTGCACT TGAAGCGCG	600
CTTGGGGCAG AACACGCAAG ACTTGTGTAC CTTCGGCTG GTTTCACAA TCTTGCCATC	660
GGA	663

(2) INFORMATION FOR SEQ ID NO:848:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1535UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:848:

15	GATCGCGGAC GTGGAGCACT GCGCGGAGAT GCGCGCGGCC ATCTCTGGTG TTTCTGCGGA	60
	CCGCAAGGAC ACGCCATCGA CGAGCGGTAT GCAGCAGACG GTGCACAGT CCGACCTCTT	120
20	CAAGGAGCGC GTCCGACCG TGGTCCCGG GCGGTACGGA GAGATGGCG CCGGATCCG	180
	CGCGCGGAC TTCCGACGT TTCCCGGCT GACGATGCAG GACTCGAACT CGTTTCAGC	240
25	CACCTGCTG GACTCATTC CCGGATCTT CTACATGAAC GACACTTCG CCGGATGT	300
	CAAGCTGTGT CATCTGATCA ACGATTCTA CAACGAGACC ATCTGGCGT ACACGTTGA	360
30	CGCGGGTCCG AACCGGTGC TGTATTACTT GCGGAGAAC GAAGCGCGC TCTCGGCTT	420
	CTCTCTGCC GTCTTTGGG CCAACGACG CTGGGAGACC AGTTCTCGA CCGAGCAGG	480
35	CGCCACTTC GCGCGCAGT TCGAGAGTG CGTCCGCGC AAGCTTGGG CCGACTGGAC	540
	GACGAGTTC ACAGAGGAGT TCGCGGCTC ATCTTCACGA AGGTGGGCG AGGGCCCAAG	600
40	AACTAAATC CTGGCTCATC GACCGGAGAC GGGCTTGCC CGGCTGAC	649

(2) INFORMATION FOR SEQ ID NO:849:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1536RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:849:

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GATCATTGTG CTTCGAGCA CAAACATCCA CAGCTGTGC ATTTCAGTT GCAATCGGA 60

GCAGCAGCTC CTTCGAGCA TTTCGAAACG CCAGGCTCTC CCAGCTCTTT CGCATGTTCT 120

15

TCTGACATTT TTGTTGTTC TAAATCGTGA TTTCAGTGC ATGTTTCCA GACCGCGCA 180

GCTGACTATA GCGCGACCA AGACCTTTA TATATTTTCG CAACCAGATA CATTAATGCG 240

20

ACGCCAAAAC ACTATCAAAA ATAAGGTATA GCTCATTTT TATTGTGACC CATGGGACAT 300

GCTGTAATCG GATTATTCTA ACTAAGCTAG TATTATGTGC GTATCTTTT ATTAATTACA 360

25

ATCACTGCTG AGTTGGGTA TCGTCAACT GCACAGCAG CTCATCAGTG GTTTCGTTCC 420

CGCGCAGATC ACGTGCTGC GACATGGGA CTTCATCCAC TGGCGCCAG CTAAGTGGTA 480

30

TATGACATTA TGGCGAGAG GTTAAGGCGT GAGACTGAA CTAAATGAG GGATCTCTTG 540

GGCTCTGCC GCGCAGGTC GAATCTGCT GATGTGTTA TTTTTCCTT GCGCGGCTA 600

35

CGCGGGCTG TATTTCCTG TTGCTATTTA GATAACGAG ATACTAACT ATGGGTAGAA 660

CTCGCGTAC TTCCGTAGT AGTAGGCTGT GCCGAAACG CCGAGGGCGG TGAGCAC 717

40

(2) INFORMATION FOR SEQ ID NO:850:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1536UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:850:

5 GATCAGCTUG GTACTGGAGA AACAAAGGCTA CTGTCCCTTG CCTTGACGAA GTTACCGGAA 60
 ATCGAAAGCA GCAGCAACAA GCAACATAGC AAGACCGCTA AATACATTCT CAAGTCATTG 120
 10 GAATAAGCTC TAAAACTACC GATACGTATA TTTACTGCGT TAACGTTTAT ATACATATAT 180
 CTAGCCGTGC GTATGGGTGT TGTACGTGTA CATCTAACCA AATAACTCCA CTATAGCTGT 240
 15 AGTACATGGC ATTCCCTTGT AAGCAACTTC AGGTTCTGGA CTACCCAATT GCTGTCCGCG 300
 ATCCAGCCT TGGGTGCGG GCGCTGTGTT GACCTCAATT TAGCGAAGAC CGACTTGTAG 360
 20 TCGCTCTCAT ACTGCTTGAA TTGGCGAATG ACGGGTTAG AGTGAAGTC AACATACAG 420
 CGGTATCGA CTATCTGAA GAGGACATCG TCCACACGA GGAAGAAAG ACTCAAAATC 480
 25 AGCATACACT CGTTCATCAC TCTCACTTA ACATTCAGAA TGCTAATGCC ATTGTCCGCT 540
 AGTTGCTCT CAAATAAAAT CATGTGCTG TAGAAAGAA TGGGTCCG GCTCGAAAAG 600
 30 CTGGCCAGA GGCAGCTCA CCGTGTGTC TCTGACCATC GCGCTGCCAT CTATGGTGCC 660
 CTGGTAGAGC GTGCTGTACG TCCAGTCGTA CTGGTGGAT ATGTTTAGGG 710

(2) INFORMATION FOR SEQ ID NO:851:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 737 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1537RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:851:

5	GATCTCGTA CTTTAGGATG GCTTTATAGA GGGCACGAAT TTCCCTTTTCG CCTATAGAGT	60
	TCAGGTGTTT GGATTTCGCA CGTTTTTTTG AGCGTGAATC CTCCTTGTTCG CTTAAGCTCT	120
10	GAGCTCCATC TCCATGACG CTATTTTTTA TCTTATTCAG AGCAACATTC CTACGATTCA	180
	TCATTTCAG TTGTCTCTGG ACATACTCTT CATCCTTCOG CTCTGTCTCT TCGTCTTTGA	240
15	GTTTGGGTAG CTCGCTCTCC GGAATGATAT CATCCCATTC CAGTCAGCT TTATAATGG	300
	TGACTTCAA CTGTTTTAGG AATTCTCTAC CTCGAGATG AGACTCTCC AAATCTGGTG	360
20	TGGTGAGTG ATCTTCGCA TGATTCAAGA CATCATCCAA GTTCAAATCT TCAAGCTTCT	420
	TTTGATTATC ATGGGCTTTG AACATAATGC CTGCACCAA CTTGAGAATC TCAGACAGCT	480
25	CTCTGCACT AGGTTCGGCT TTGCTCTTCG TGTATATTT ATTCCCATCT GTAACACCTA	540
	ACGAGATGAT AGCATACTCC AAGATCATCT TTTTGGGTGC TCTTTCTAAG ACTTCTTCTT	600
30	CAACGGTATT CTTAGACACA AAACGGTAAA CCATAACATG ATTCTTTTGA CCAATCTAT	660
	GCGCGGAGC CATTGCTTGG AGATCGGCT GTGGATTCCA GTGGATCA AATATGATCA	720
35	CAGTGTCTGC CGTCATC	737

(2) INFORMATION FOR SEQ ID NO:852:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 716 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1537UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:852:

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5      GATCTAGACC ACCCGGGCTC GTTACCGGA TAGAAGTAA AAGCAGTCGG GAGCGTCTT      60
      CTGGCAACGA CGTTTCTTC TACACACTC CTGGACAGG ATCCAGCATC CTGCCGATA      120
10     ACGTCAACGC CCGGTTGTG ATGGTTCCA GGTCGACTG GCGCAAGCG CTGCGTGAGA      180
      AACAGCAGG CTGCACTTCG CTGCTTCGG GAGGCTCTG GGAGTGTCC GGGGTTTTC      240
15     CCACCGTCA ACCTAGCGGG GCGTCGTGT GCGGGCTCT CCATGCACT GGGGCTCC      300
      CATGATGGG GGGGCTTAC CAGGTTGTG TTGGGCTGC CTGCTGTGC GTGGCACAC      360
20     GATGGCTGC TGGAGGAGT GAACCTGCTT CGTGGTCCA AAGTGTGTG CGACAGCGA      420
      CTTGCGTCA AGCTGTGCT GCGGGGGGT GTGATTGCT GCGTCGCGG GTGCACTGT      480
25     GGTGACAGG CTTTGCAGG ACGTGATGT TGGTCGGGG CCCAGAAGTG CTGGTGTGT      540
      CTCAGACAGC TTTTCGCGG GCTGCGGCG CCGGTTGCG GCCATATGAT TGATTCCGTC      600
30     TCGATTAGTG CATGGTGGTC AGCTTCAGA TGGCAGGCT GTACTGTGC TTGCCCCGG      660
      CCGCAGGCT CTTGGCTGT GCGGTGGGT CTGCTTGTG GCGTCGCGC CGTTCT      716

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(2) INFORMATION FOR SEQ ID NO:853:

(i) SEQUENCE CHARACTERISTICS:

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40     (A) LENGTH: 733 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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50     (A) ORGANISM: PAG1538RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:853:

5 GATCCCTCTG CTACAAACAC ATACCTAGAT TTCTCATATT TTATACTGAA TACATATAAT 60
 ATATCATTTA ACTGCTCTCA TTCTAGAGAC GTCTGTAAAG TTCTGTGCTG CTCAACTTGT 120
 TTTTCCACTT GTCAGCTCTT TCGCCCCCA GTACGTTTAC CACATGCAAG GCTAGCTTCC 180
 10 TCATTCCTTT GCTCTCAGC GATCGTTTGA TTGTCTGGG ACCGCCCACA GTTCTCTCAC 240
 TCACTACCAG GCTTCGATA CCAGTTTGC TACCGTGGG CCGGCACAG TCACTAAG 300
 15 CAAATATTTT GATTTCCAGC CCGGTTTCA GCTGTGAAG GAAGCTGCAC AGTTATGCG 360
 ATCGTTGTC GAAGGACTGA AGCTGCTCC TGTATTTCTT GTTCGCGAG AGTTCTTCAT 420
 20 CTGTAATCCC CAGATCAGC CGGAGGAG TCAAGAGGC GGCAACACTG AGCAATATTT 480
 TATGTGCTC GTGTAGTGG TCGAAGTCC CTCCAGGCG GCTAACAGG TACTGTCTC 540
 25 TACCGCCACT CTGACCGGC CCGGCAGCG CCATCGCGG ACTATCAAC AGCTCTATCT 600
 GCTGTGCGG GAAGCATCC TCGAGGAGC GATCGTTCAG GAATACAAG TCCCACTTCA 660
 30 TTGGGCTGTA CGCTCCATA CTGAGTTGA ACAAACATT TATCGGGTC GTGTACAGCT 720
 TCTGCTTCAG AAG 733

35 (2) INFORMATION FOR SEQ ID NO:854:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1538UP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:854:

GATCCTTGGG ACGACATCGA CACCATTTCT ATCGGTAACG AACTTGTGAA CAACGGCCAG 60
 5 GCGACCGTGG ACCAGATGGC TGGTTACATG AAAACTGGCC GCAAGTGCTT CGCTGAGGCC 120
 GGCTACAAGG GCCCAGTTGT TTCGGTGGAC ACTTTCATCG CTGTAATCAA CAACCTTGGT 180
 10 CTATGTGACC TATCAGACTA CATGGCTGTC AACGCCACCC CATACTTCGA CTTCCACACT 240
 TCTGCTGCTA TGGCGGGGCC TTGGGTTTTG CACCAGATCC AGAGAGTCTG GAGCGCTGCG 300
 15 AACGGTAACA AGAAAGTTGT CATCACCGAG ACCGGCTGGC CTACTCAGGG TCAGACTTAC 360
 GCCAAGGCCA TTCCATCCAA AGCCAACCAG AAGATGGCCT TGGATCTAT CAAGGCCACT 420
 20 TGTTGGGATA GCGCTATCCT ATTTACTGCT TTGACGACT ACTGGAAGCC AGATGGGCTT 480
 TACGGTGTCC AGAAGTTCTG GGGTATGCTA TAAGTTGCGG TGTGCTTCTT TATGACCTGT 540
 25 CTCTTTATTT TGCTGGGAC CCTTACATGC AGATGGGGG TGGCGGTGCA TGGGCTGCA 600
 GCTTCGGGC CTGCAAGTTT CTACATGCC CTACTTTAGC TGGCACGGA CTTTGAATT 660
 30 TCTTTGGCAC GTGGTACTGC TGGCATCCTT CTCATAGAGC ACAGTGTGCC ACAGGGTATC 720
 ACTGG 725

35 (2) INFORMATION FOR SEQ ID NO:855:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1539RP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:855:

EP 0 866 129 A2

GATCAGACAT GGTGTTTTGC GGCCCTGGCT CCTTGTTGGT GGGGTCACCG CAGTTCAC TG 60
 5 GGCCAGCATC AGTTTTGGTG GCAGCAGAAA CCCTTAGGAA TGTGACTTTC TCTTGGGAGG 120
 AAGTGTATA GCCTAAGGTT ATACTGCCAA CCGGACTGA GGAATGCGG TTAGGCCAAG 180
 10 GATGCTGGCA TAATGGTTAA ATGCGCGCCG TCTTGAAACA CGACCAAGG AGTCTAACGT 240
 CTATGCGAGT GTTTGGGTGT AAAACCGTA CCGTAATGA AAGTGAACGT AGGTGAGGGC 300
 15 CTCTTTAGAG GTGCATCATC GACCGATCCT GATGTCTTCG GATGGATTG AGTAAGAGCA 360
 TAGCTGTTGG GACCCGAAAG ATGGTGAAC TATGCTGAAT AGGTGAAGC CAGAGGAAAC 420
 20 TCTGGTGGAG GCTCGTAGCG GTTCTGACGT GCAAATCGAT CGTCGAATTT GGTATAGGG 480
 GCGAAGACT AATCGAACCA TCTAGTAGCT GGTCTCTGCC GAAGTTTCCC TCAGGATAGC 540
 25 AGAAGCTCGT ATCAGTTTTA TGAAGTAAAG CGAATGATTA GAGGTACCG GGTGAAATG 600
 ACCTGACCT ATTCTCAAAC TTAAATATG TAAGAAGTCC TTGTTGCTTA ATTGAACGTG 660
 30 GACATATGAA TGAAGAGCTT TAGTGGGCCA TTTTGGTAA GCAGAA 706

(2) INFORMATION FOR SEQ ID NO:856:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 743 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1539UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:856:

55 GATCACTAGC TGACATTCCG TACCGAATGG CACTCCAATG CCGACAAACC TCTTCTACC 60

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 15
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CCGTGACTTA CCCCAGATGT CCAACTACCA CACATCTGG CCATAGCCCC AGCCATCTGG 120
 CACCAAATGT ACTGATATC GTTATTACAT GTCTACGCC TCACGTGCAT CCACATCTG 180
 ATATCATGTC TGCTCTAGGC TATATATTTC GGTTCGGGCC ATATCTACCA GAAAGCACCG 240
 TTCCCGTCC GATCAACTGT AGTTAAGCTG GTAAGAGCCT GACCGAGTAG TGTAGTGGGT 300
 GACCATAAGC GAAACTCAGG TGCTGCAATC TTTTTTTTTT CCTCCTCTG CAAGCTGGCC 360
 GCCAACACAG GTCACCTTAG TATGGCTCAC ATGCAATTCA GATATCTACT TCTGACTGGT 420
 CTGGTGGGGC ATGCCCATCA TTGCAACAG TGTGCTGGCA TGGGACTTTA AGACCTGGC 480
 GATAATAATC AGAGATCTTC TACTTATAAA ACATCAGGCA CAAAAGAAA GGTGCAGCGA 540
 AATGGTATAT ATAGGTCTTC CAGATCCACC AOCGGTACCT CCTACTTGGC CGTATCTGGC 600
 TCTCGTGGC GCTTGGCGCT GAGATGCTGT GGGCCCGAAA TGTACTCTCA AATGGGCTTG 660
 TTCAGTGGCC CATACAGCTC ATAAGCTCAG TGGCCCGCAT GCTTAGTAGT AGCTGGGCGG 720
 CTCCTCATAC TGCTGTCTGT ATA 743

(2) INFORMATION FOR SEQ ID NO:857:

35
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(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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 50

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1540RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:857:

55
 60

GATCTTTTCT TTGTCAAAGT TCAACACCTG TAAGCCCGCT CTAGATACCG CTCTAGAAAG

GGCCACATAC GCTTGGCCCT TTTCAAAAC AGGTCGAGA TCCACTTTCA CTTTGTTTAG 120

5 TGTITGGCCT TGAGATTAT GAATGGACAA GGCCCATGCA AGCATGAGTG GCAATTGAAC 180

TCTGTTACT AGAGGCTTCT CATTITGTC CTCGATAGCC CATGCTCTT CTCGAACTAA 240

10 AACTGTTCTG GTGTATTGT GGGCTGGAA GAATGCACT AATGGCACT TCTTACCTT 300

TGAGTCATG TGAATTCTT GTAAGAGCTG CTTCTCCGT TCTAGATTGG CTTCACTTC 360

15 AGGATCTGTG ACTTCTGAT CATCTTTAA GAAATGAAT ATGCTGTGC CCAAGTGGTC 420

TACAGTCA TCTGTCTA TGTCTTAA CTTCTCTGC AGAGCTTCT TGACATGCT 480

20 TGTCGGGTC TCTTCTTG GCTCTCATC CTCATCAAGC TGGGGGGGT TCCAGTGT 540

TTTGCTAAT GCATCCGAT ATTCTCCA TTCTGCAAG TCAAGTCAT CATCGGAC 600

25 ACTTGATAG AACATAATG TTGCTCATC GATGAAGTCA ATGACTTCC CCAAGTATC 660

GTTTACGAGT GATCATCGA AGTCTTAAT GTTCATAACC TGTGGGCGA CTTTAA 716

(2) INFORMATION FOR SEQ ID NO:858:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 643 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1540UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:858:

GATCTCTGC GCGAAGACA CGCCTGCGC CCATCGGCA TAGGGGCCC ACTTTGTAT 60

55 GAACATTTCC CGCACAAGCT CCAGCTCAT GTTCAGTTT TTGCGCACAC TGGGAAGTC 120

CTTGTATCGC GCTTTCAGCG CAGCGATCTT CGCTGCGGAT GCATTGAACT TGTAGTCTCT 180
 5 TTGTGCGATC CTGTTGATGT GCACGTCTAC AGGCACATGG TGTCCATCT GCATGCCCAT 240
 GAGGCAGACG CAATCTGCGA CTTTUGGACC CACCCCCGGA ACCTGCATAA ACCGCTGACG 300
 10 GATCTCTCC CGCGATATCA TGTCTAGCCA GGATTCCAGG TGTTCACTAT CGCTCATGTG 360
 TGGCGTTTTA CTTGAATCCA TCCATTCTGC CGCAGCATG ATATACTTGG CCGAATACC 420
 15 AAACCCCAAA TCCCGCAGTG CGTCTCGCT AGCGGCTTCC ATCAGCTGCT TGCTGGTGGG 480
 GAATGAGTAG TATGGAGTAC CGTCAGCTC GCGAGGAAG CTCCCGTACT GCGAACACAG 540
 20 TGCATGGCAC ATCTTCGTGA TCGCGCGGAT ATTGTGTGTG CTAGAGCAAA TAAACGACA 600
 CAGTGTCTCC CAGGGTCTT GTGCGAGTAT TGGCAGGCA CGA 643

25 (2) INFORMATION FOR SEQ ID NO:859:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1541RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:859:

GATCGAACAA CCATACTTTA GGCCACACG ACCGTTCCCC TGGGGATAT CCTGCCGCC 60
 50 CTCTACAAGA TTGGATTCAA TCATCACCC ACAAATGCCA TTCTACCTT TACTCAGCTG 120
 CTCATAGATA TTTTGGGCGA CTTTCGGCTG GTTGGGGTAA TCCTTGTGTG AATTTCATG 180
 55 CGAGCAGTCA ATCATAATCC TCCGCTGGAC CCCAGGCTG TCAACTAGCT TGCATTCAC 240

CAAGTCTGC TTAGCCTGTT GTACACTGGC AGCGTCATAG TTTGTGCCAT CTTTACCACC 300

5 GCGTAGAATG ATGAAGGIGT CCTCGTTACC TTCAGTCCCA ACAATGCGAG TCACTCCAGG 360

CTTGTAACC GAAAGAAAGT AATGAGAGTG AGCAGCGGCA CGCATAGCGT CAATAGCAAC 420

10 CTGTAAGCAG CCATCTGTCC CGTCTTGAA TCCGATCGGG AACGATAGTC CAGAAGCCAG 480

CTCACGGTGC AGCTGGGATT CTGTGCTCCG GCGGCCAATG GCGCCCAAGG AGAAGCAGTC 540

15 GCTTAAGAAC TCGGGGAGTA TGGTGTCTAG CATTTCGCCC GCAATTGGAA TGTGCTCCAC 600

CAGCTGGGTG TACATCTCCC GCGAGATACG CAATCCCTTG TTTATTTGGA ACGAATTATC 660

20 GATGTGCGGG TGGTTGATGA GCCCTTCCA CCCACCGTG GTCGCGGTT TTCCAGATAC 720

(2) INFORMATION FOR SEQ ID NO:860:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1541UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:860:

GATCAGCTGA TGAAGATTGT ACGTCATCAC TGCTATTTAA CACAAACATA ACATAATTCA 60

TCCGCGATAG TTTAATGGTT AGAATTGCGG CTGTGCGGC GCGGGATCGG GGTTCATTTC 120

50 CCGTTCGGG AGCTTTTTGT GACATTATT GAAACGGTIG TGGTTATAAC CGTTCGGATG 180

GAAATGGCA GGACCTGTA ACGGCGAGCT ATCCTGCAAC TTGACGTGT TGTGGGTCT 240

55

ACGCCAGGGC TTGGGCTTCC AGAAATTGGC TTTCGCCGAG CCGAGTTTTT TGTGACCCAA 300
 5 TATTTGAGCT GGTGATCATC AAGCTCTAGT CGCACACAGG GGGCCCGAGT ATCCATTGAC 360
 AAAGGTGGC GCAACATCCG ATCGCCGGGT CCCCTTATAT ATAAATATAC ACTAATGACA 420
 10 CATGCGAATA CCGACTGCC GTGGATAGG GAGTTTGAG GCTCATACC CCTCAATACA 480
 GATAACAAA TTGGAATATA GGAGAAGAAA TGTTCGAGAG GCTAAACTT AGGTTCCGGC 540
 15 GATGCAGAAG ACTCAGAGCC AACGTTTAG CAGACGTTCC ATACCGAAT CCCAGTTGA 600
 ATTCGCAAT CATTTCAGA ATCGACACAA TCACGGTGC AATCTGGGT CGCTATGTC 660
 20 CTTGAGAAGT GGATATCGAG TCGATGTTCC AATGTGGGG CGAGACCGAG CATGGGGGA 720
 TCAGGAAGAT GA 732

25 (2) INFORMATION FOR SEQ ID NO:861:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 614 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1542RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:861:

GATCATGTGG AGGAAGTGG GCAGGCTCTC GGAGCCGGG TAGTGGGCTA CTGTGGCGGC 60
 50 GGGGCGAGC GACTGCTGG GGTATTGGG CGCCGGGGCA GCGCGGTGTG AGCCGATGCT 120
 GCTTCGGGG TGGCGGGGG CGAAGGGGTC TGGCGGGGG CGACGGGGC AGGGCGAGC 180
 55 CCGTGGGAG AGCGCGAGCA CAAGGCAGTC GAGGGGAGG AGCATGAGG TGGTGGGAT 240

CGTGGGGGCG TTGAGGCGGT CCTGGACGAC GCGCTGCGGC AGGTGGGGGG GCTGGAAGAC 300
 5 GGTGATCAGC TGATGCGGCG GCGGGGCCAG CGTCCAGGCG GGATGCGCGG TGACGGCGAT 360
 GAGCGGGCTG GCGGGTGGCA AGCGCGGCGT GCGCAGGTAG GCGGCGAAGT GCAAGAGCTC 420
 10 GTCAGTCTCG CCGGAGTGGG AGCAGAGCAG CAGGGCGTGG CCGTGGCGCA CGATGCGGAT 480
 GTGCGCGTGC ATGGCGCTCG TGGGTGGAA GACGCGGCGG GGGATGCGCA ACGAGTGGCA 540
 15 GGTGGCGACA GTCTTGGCGA TGATGCGGAA GGACTTGGCG CAGGCGACGA ACACGAGCTT 600
 GCGGCGGTGC GCGA 614

(2) INFORMATION FOR SEQ ID NO:862:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1542UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:862:

GATCATTTAC CTACGCATCG GCGTGGCGCG CATTGCGGCA GACGGATGCG TCGGAGACGG 60
 45 CTACCTGGAA CACTACTACG AGAAGCGGTA CGCGCGCGCC CTCTCGACG GCTGCCGTGT 120
 GCAGCGGCTG ATAGGACTOC ACGGCTGCC GCTGTAGCGA GTCATGCGCG TGTGCCGGAC 180
 50 CCGAGCGGTT TGGCGTCTCG GGAGCGTCCG GGTTCGCACC GCTGGAAAAA GGAGGGCCAC 240
 GCTGGTATAT AAACGGCACA CGAGCCATOC GGCGTCAGGA ATAGCGTGAG TCGACAAGAT 300
 55 GGGTCCGGAA CACGGTCTTA AGGACCTTCA GAAGAAGCCT GTGAGCTTTT CCAACATTGC 360

CCTGGGAGCG GCGTIGAAEA TGTGGCAGGT CACGAGCCTT GGGCAACCGC TTGAGGTCAC 420
 5 CAAAAGGACC ATGGCCGCAA ACCGGCAGTT CGGCTTTTUG CAAGGGGTGC GGCACGTGTG 480
 GTCCCGTGGG GCGGTGTTCG GCTTTTACCA GGGGCTGATT CCGTGGGCTT GGATTGAGGC 540
 10 GTCCACCAAG GCGCGGGTGC TGCTGTTTGT TTCTGCCGAA GCGAGTACC AGTTTGGCG 600
 GCTTGGTCTC AGCAACTTCG GTGCAGCAT CCTGGGCGGG TGTCTGGCGG CGTA 654

(2) INFORMATION FOR SEQ ID NO:863:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1543RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:863:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCATT GAGCTCTTAC GAACTGCACA 60
 AACCTACTCG AACCTGTGTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA 120
 40 AGTACCCCCC AGGCTATTTT TCTTACCCGC CTGGTGTPTG TCTATATAAC CGGTGTATT 180
 TTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGCGCCA 240
 45 TCGAAAAATC TGCTTTTFTA CCGCTGTPTC TCCAGTCTT AGCACTGGCA GAAAAAGAT 300
 GTATGGGGTA TAGCGGCTG CCGCGCGGAA AAAAAAATA AATAGAAAA TAGAAAAATA 360
 50 AAAAGACGTG GCGCGCCCGG CCGGCAGACG AAGAAAAAT AGGCGGCCAC CCTTCCAAGC 420
 AGACGACAGG CGAGACATAA TAAATGCCA CACCAAGGA AGAAGTCTT GTCCAGCTC 480
 55

CCGGCTTCAT ACGCTGCCAT TCTGTTCAT CCGGCTTGCA AACCCAGTAG TGGCATGTCA 540
 5 AAGCATTGCT CGAGCGCTCC GCTGCCCTGC AGTCGACATC CTCTTCTTAA CCCCAGCCAG 600
 ACTTCCCATTA CTTTGCACTT CACATAGCAT ATCACTTTTC AGATCACTAC GTGACATTCG 660
 10 GTACGGAATG GCACTCCAAT GCGACAAAC CTCTTCTTAC CCGTGACTT ACCC 714

(2) INFORMATION FOR SEQ ID NO:864:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 680 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1543UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:864:

GATCCGTAACT TCGGGATAA GCAATGGCTC TAAGGATCGG GTAGTGAGGG CCTTGCTCAG 60
 35 ACGCGGCAAG TGTGCTTGTG GTCTGTCTTC GGGGGCTTGC TCCTGGGGAC GCACTGCTTG 120
 CGTCTCTGT CGTAGAGGGC CTTGGTAAAC CATCTCTGGT CGTCGCTTGC TACAATTAACT 180
 40 GATCAACTTA GAACTGGTAC GGACAAGGGG AATCTGACTG TCTAATTAAA ACATAGCAAT 240
 GCGATGGTCA GAAAGTGATG TTGAGGCAAT GTGATTTCTG CCGAGTCTC TGAATGTCAA 300
 45 AGTGAAGAAA TTCAACCAAG CCGGGGTAAA CCGGGGGAGT AACTATGACT CTCTTAAGGT 360
 AGCCAAATGC CTCGTCTCTT AATTAGTGAC GCGCATGAAT GGATTAAAGA GATTCCCACT 420
 50 GTCCCTATCT ACTATCTAGC GAAACACAG CCAAGGGAAC GGGCTTGCCA GAATCAGGG 480
 GGAAAGAGA CCTGTGTGAG CTTGACTCTA GTTTCACATT GTGAAGAGAC ATAGAAGGTG 540

TAGAATAAGT GGGAACTTCG GCGCCAGTGA AATACCACTA CCTTTATAGT TTCTTTACTT 600

5 AATTCAATTAA GCGGAGCTGG AATTCATTTT CCACCTTCTA GCATTCTAAG TCCTATACCG 660

GGCTGATCCG GGTGAAGAC 680

10 (2) INFORMATION FOR SEQ ID NO:865:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 686 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1544RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:865:

30 GATCTCAACA AGATCAATAG GCATATCCTG CCGGCTAGGG ACACCACTGA ATTTTATGAC 60

35 GAGAAGGCGG AAGAGTTGCA CCGCAGTGTG AGAATGGAAG AAATGGCCAT TCGATGGGC 120

AAACGGGGCA AGTGGCTGAT GAAGCACTGC GAGGGCGATG TGCTAGAAGT TGCATCTGGT 180

40 ACTGGTAGGA ATATAGATTA CCTAGACTTG AGCAAAATCG ACACAATCAC CTTTCTGGAT 240

GGTCTAAGA ATATGATGAA GATCGCCAAT AAGAAGTTCA GAGAAAATA CCCACACTTC 300

45 AAACAAGCTG CATTCTAGT TGGAAAAGCA GAAGATTTAG TGGACCTGGC GACTGGGCAT 360

TGCGCTCAGC AACAGAATCT GGAATTGGTC AACTCTCCTG AGCAGGTGAT CCCGGAGTCC 420

50 AAGCCCAAGG TTAAATACGA TACCATCATC GAAGCCTTCG GTCTGTGCTC TCACCATGAT 480

CCTGTACGGG CATTGAAAAA CTTTGCGAAA TTCTTAAAGC CTGGCGGAAG AATAGTTCTG 540

55 CTTGAGCATG GCAGAGGGAC CTATGACGTT GTGAACAAGA TTCTAGACAA GAGACCGGAG 600

CAACGTCCTCG AGACCTGGGG CTGCAGATGG AACTTGATA TTGGCGAAAT TCTAGATGAC 660

5 TCTGATCTAG AATGTCACC GAAAAA 686

(2) INFORMATION FOR SEQ ID NO:866:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 683 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1544UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:866:

GATCAAATTC CAATCTCCGT CAGCGTCAGG CAGCCGGGTT ATGIGTGA A CTCCTCGCTG 60

30 CTTCTCTTCT CTTCGCTGAA CCGCAAGAA AATTCCACTT CAGCCGAAC CAGAGGCGAA 120

AAACTGAAAA TGAATAAGG CGCCGCTTC CGAGGAGGT GCGGCTCGT GCAGCTCTAC 180

35 TTGCAATACC CGCAATAGGA CTACCAGACC TTATTAGACA CTGTAATATG TGGCAGCAG 240

TAGGTCCAGT CTACAACTT TTATAGGCA GCGGGGGTA TTACTCTTTT CTGCTCCCGC 300

40 GTCCCGATA AGTTGTGACT CACAGTCCG CGACCGAAC GTCCGACGA GTGCGCGAA 360

TAATGAGTAA TGTTCTATGT ASTGGTTCCT AGGGGCTGA AGGCTATGCT CTGGGTAGC 420

45 TGGAATGTCA CGCAGACAT GGGCTTGTG GGTGCCACTT TCGCAGGAG GTGGAACGAC 480

AGCGAGTCA TCGCAGGAT GTCTCGGCTG GTGTGATTA TCTGAGCAC ACGCGGTGT 540

50 ATCGCGGGGT GCAGGTCTGC TGGCGGGGC TCGGCTCGT CCGGCTGTA TTTCTGAAA 600

CAGTGACAGT GGATGTAGG CAGCAACAAT TGCTGGGTCG GCAGCGGGT OCTCGAGAT 660

55

CCGTGGGCGG AGTACAGCCC GGC

683

(2) INFORMATION FOR SEQ ID NO:867:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 714 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1545RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:867:

GATCATTAAAT CAGCCATGGC ATACCCGGGC AAGATGACCA TTAGCTCTTG CTTTCGACAG 60
 AAACAACCGA CTATGGGTAT AGAACTTGAT GATAGAAGGT TGAGGCATTT AAAAAAGTGG 120
 CTAGACCCGG CTTTAGATCC GCTACGACA GACGAGAGCG TCACAGCCCT TGTGAAGGAC 180
 TATGTACTAC AGGTACTACT AGAGTGGAC ATCGCAGCTG TGAGGGGCG AAAGAACGAG 240
 TTCTGGGAGC AGATGAGCCA GTACCTGGCA GGTATGGTGA AGGACCACAG CTGTCTAGAT 300
 GGGTTGTTTT ATCAGCTAGT GGACTTAGGC GAGCCTCCCG CCGGGAATAG TTGCGGGCGA 360
 CAGCTGGGTG TCTTGAAAT CCCAGCGAC CGGCTTGGCT GGGAAACCTT GCGTGGGAG 420
 TTTGGGCCCT TTGGAGGGT CACCAGGGCG AGGATTGATT ACGTCATCG TGAGGCATTC 480
 TTGGAGTATG CGGATGGGC CAGCGTCGTC CGATGTGTT CGGTCCGGA GGCCTTCTTG 540
 GGGAAACGGT TCGTTAGGT GCAGCCCTGC TGGGAGGCG TGGGAATCAC TAAGCGGTGT 600
 CGACGTCTGG CCGCCGATC ACGAAACAAC TTGCCCCGAG CATGGATCAT CTGGGGTGCC 660
 TCCCGGAAC TGGTGTGTCT TGGATCGTGG ACGTGGGCT CCGCTGTCA TCCT 714

(2) INFORMATION FOR SEQ ID NO:868:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 576 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1545UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:868:

GATCATCTTG CAGGGACCCG WCCAGGTGGC GTAGAAGTCC ACGACCAAGA GCTTGTGGGA 60
 GGGCAGGGCG GACTCAAAT CAGAAAGGGA CTTGATTTCG GACACCATTG CGTTCTGTGT 120
 GGCTGACTGT ACCTTGTTGA TAGCGATTAC CCAGGAAGCC GGGCGGAGCC CCGCTTTTGA 180
 TACCCGGCCG CCTGGGGTCA CGTGTACCA CGTGGGGGT CTCCCCCTCA TTTCGGCTCA 240
 GGAGATAAGG ATGACAAACG CGTCTCGCG CGGTCCGCAT TGAAGTCTTC GACAGCAATG 300
 GAACCTCTGC TATAAGCGGT GTCTGGGGC CGAGCTTCT CAATGGTCC TCTCTCTGTT 360
 CGCTTTGTGT ACGCCAGGCG CGGGTTTGTT TAGGTTTCG ACGGGGTTG ATCTCCAACG 420
 CACGGTGGAA TAACGAACAT GAAAGCCAGT TGTACAGTAG CTACACCCA GCAGACGAG 480
 CATCAGCAGG CAGTTGAGAG CCGGTACGAG AAGTTCCGTT ATAGAGACA CTGAGACCA 540
 TAGAGGTCAT CCGCTAGGCG GTACTTCAGG TCAGGC 576

(2) INFORMATION FOR SEQ ID NO:869:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 741 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1546RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:869:

15	GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTAA GGGCCTTTTC	60
	CAATATTTTG AGCGTCGTTT CATAGCTCGG AAGAGGCAGC AGAAGCCCCC CCAGTAGTGT	120
20	CTGTTCAATG TGGTCAATGA AAGTGTCTC TATCAAATCT AGCTCCATCA TGGCAGAGTA	180
	GTTATTATCT TTCTTCCAAG ACAGAGGCAC ATGCCGCAAC TTGTCAGGA TTACAGTAAA	240
25	ATAATGTTAG AACCGCGGAC TCACAGAAGC GACGACGCT CGAATGAAG TGGGCGGTA	300
	AAAGATCGTG CGGCCCTGCT TCTCTATCAC AAGATGGAAC TGGGAAAGTC TGTTCACGGG	360
30	GGACACCGTG CCCATAAGST GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT	420
	CGCGCGGAGC TCAGTCTCAA GCTCGTGGAT CCGTGCAGC AGCTCCACAT TGGGCGTGA	480
35	GCTGAACAGC TCCGTTGAGT TCAGTGGTG CGTAAACTCA GACAGGTACA CACACTGGG	540
	CAGGCCCTTC CCAATACATG TAGAGCACTT CGGCGCGGOC TTGTTGCACT TGACGCGGCG	600
40	CTTGCGGCAG AACACGCAG ACTTGCTGAC CTTCGCGCTG GTTTCACAA TCTTGCCATC	660
	GGACTCTGCC ATCCCGCCAG CTTCAGCAA AATGAGTAGG TCATATTATT TAAGTCTGG	720
45	TAATCTTGAA TAATGCTCAC T	741

(2) INFORMATION FOR SEQ ID NO:870:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1546UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:870:

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15  GATCGCGGAC TGAACACTG GCCGAGATG CCGCGGCCA TCCTGGTGT TTCTGCGGAC      60
    CGCAAGGACA CGCATOGAC GAGCGGTATG CAGCAGACGG TGCACAGTC GGACCTCTTC      120
20  AAGGAGCGCG TCGGACGGT GGTGCGCGG CGTTACGAG AGATGCGGC GCGATCCG      180
    CGCGCGACT TCGGACGTT TCGCGCGCTG ACGATGCAGG ACTCGAATC GTTTCAGGCC      240
25  AACTGCCCTG ACTCATTTCC GCGATCTTC TACATGAAG ACACTTCGG CCGGATTGTC      300
    AAGCTGTGTC ATCTGATCAA CGAGTTCTAC AACGAGACCA TGTGCGGTA CAGGTTTGAC      360
30  GCGGCTCGA ACGCGGTGCT CTATTACTTG GCGGAGACG AGCGCGGCT CTCGCGCTTC      420
    CTCTCTGCG TCTTTGCGC CAACGAGGC TGGGAGACCA CGTTCTGAC GGAGCAGCGC      480
35  GCCACCTTGG CCGCGCAGTT CGACGAGTGC GTGCGCGCA AGCTTGCGAC GGACCTGGAC      540
    GACGAGTTGC ACAGAGAGT TGCCCGGCTC ATCTTCAOGA AGGTGCGGC AGGCGCCCAA      600
40  GACACTAAAT CCTCGTCAT CGACCGAGA CCGGCGTGC CGCTGACCT ATTCTCTGTC      660
    TATTTCTGC TCTGTATACC CTGCCAGACC GCGTATATA TATAGAA      707
45

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(2) INFORMATION FOR SEQ ID NO:871:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1547RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:871:

GATCCTCCGC CTACACCAGA ATATTTCCTGG CCAATTAGTT GTTCACCATC GCCCCGAACG	60
TTGGTGAAGC CACGGCCATA CGCTCCCATG CCGAGTGCAA TTTTCTCTGG GCTGACCTTA	120
AATGTGTGG TCATCATGAG TATGCCATCA TGTGCATTCA ACTCATCAAA GTTGTCAATA	180
CCCATATCTT CATACCGAGC CTTATCTAGG TCCGATTGT ACGGGGAATT CGTAGCATG	240
TACAAGTTGC TATGGTAGCC TGTTCCTCT GACCATGCAC CGTGGTAGTC GTATGTCATC	300
ATATCCACA TGCTGAGATA CTTGTTGATC TCTCAACCG GGAAAATGCC AAGTGTCTGA	360
GGAAAGGCGG GTGCTGCCAT GCTTAAGTGG AAGGGGGTT CTGTAGTCCC GCGGGGGCCC	420
CAGTATTGT CTTCCAATTC GTCCATCTTG TGTGCAAGC GGCTACACAT TTCTAGATAC	480
ATCTGGGGTT CGTAGCCATC ATCCTTAGGG AACTCCAGT CAAGATCTAT CCCATCGAAG	540
CGTACTCAA ACAATGGGTC GATGGCGAG TCGATGAAGT TGTAAACTT CTCCTGTCA	600
CCCAATTT TATGGAACGG CTCCTGATTG GAACAGCGC CAACGGGCAT CATGAGCTTG	660
AAATCGGTCC CTGGCGCGT CTTGAGGTAA TTAAGCTTCG CCTATTGCC	710

(2) INFORMATION FOR SEQ ID NO:872:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 608 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1547UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:872:

GATCTCTGAG GGTTCCAAGG CAAGCCCGCC GGAGCTTGGC CAAATTGIGT CACCCGCTCT 60
 CGAGTAGATG GTGGCCTTGT CGACCTTCCC GGTTCCTAAC AAGTTGTCAG TGTAGGCTAA 120
 AGCTCTAGTT AGTACCCACG AACGGGCCAC GAGCAGAACA CGTAAAACA CATACTTGC 180
 CAAGACATGA TGGGTCCGG ATGAAATCTG AGTTAGTGCT AACACTGGCA GATGCTCTGG 240
 TGAGTGAAT CTACGTATCA ATAGTATTGA TTTGTCAATA AATATAOCTT GGCTTTTGT 300
 AATCTTTTTA TATAAGGGGT TCCGATCTGC TGACATCATA GCACAGAAT TAAGTATCCG 360
 GGTAACGAAC TGCCCGGGTA ATCGGGGCA CAGGGCAAGT GCGGGTAAC GGCATCCACA 420
 TACCGCAGAG ATGCACTGGC GGCTACATAC TGTACACAGG CTGCGAGCTA CTGTCGTCT 480
 GAGTGGAGAA CAGCCACCTT GCGACGTTG AGAGGACCT CTCATCTGC GCGGGGGCC 540
 GCGGGGCAG CAGCGTACTT GGCTGGGCC TCGGTTTCA GCTGCTGCAG ACCGCGGGCG 600
 TTTAGGTC 608

(2) INFORMATION FOR SEQ ID NO:873:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1548RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:873:

5	GATCATCAAT GCTCGGTTAG CGAATGCCCG CAATTTTACA GCTGGTTCAT CGCTAGGCGG	60
	TAAGGCGACC GGGGTAGTT TCGTGCTTA CGGTCGCTG GGTGTTGGTT TTGCATCGG	120
10	ATGGACAACA TATGCTGCAG ACTACACTGT CTACATGCC AAAAATTCTA ACAATAACG	180
	CATCTTTTTC TTCATGATT CGGGTCTGC GACCCGTTG CTGTTCAAGT TGATTCTTG	240
15	AGCTGCTGCC GGGCGCTGTG TGCACACAAA TCCTACGTGG GCGAATATT ACAAAAACA	300
	TTCGGTGGGA GGTCGTGCT TTGCTATACT GGCTGAAAAC GCTCTGGGCG GGTGTTGGCA	360
20	GTCTGCTGC GTGTACTG CCATGTCCAC AGTTGCAAAC AATATTCCAA ACATGTATT	420
	CATGCTCTC AGCACCAG CGCTGTGGAG TCGTTTCGCG CGTGTGCAC GAGTGTTCTG	480
25	GACCTGGTC GCAACGCAT GCACTTGGT CATGCAATC GTTGGTACT ACAAGTTGA	540
	GACCTCATG ACCAGCTTA TGGATTCAAT TGGCTACTAC CTCTCCATAT ACATGTAAT	600
30	ATGTTGACT GAGCACTTG TCTTCGCAA GGGCTTCGT GGTACAGT CAGCCACTG	660
	GAACGTCCG ATCTTCTCC AGCTGTTAC GCTGGCTGCG CTGGC	706

(2) INFORMATION FOR SEQ ID NO:874:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 590 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1548UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:874:

GATGACAGA TTACAGTAC AAGCGAGGT TGGGCTATT TAAGGAACAG AACCTATACC 60
 5 ACATTGAAG CTCAGTTTT GGCACGCCAA GACCGATTG CGGATTAAGT ATCTTGAAGT 120
 TTGCACTCAG ACTCAAGAAC TACTATTACG ATACTATAAC AAAGAGATG ACTAGCACAG 180
 10 CCGACCACAA GCAGCCCATTT TGGTTGAAGG TTAACGGGGC TCTATTGAC GTCGACGGGA 240
 CCATCATCAT CTCGCAGCCC GCGCTAGCGG CCTTCTGGAG GGAGTTTGGC AAGGACAAGC 300
 15 CGTACTTGA TGGGAGCAT GTCATCAGTG CCACCCACGG CTGGAGAACC TAGACGCCA 360
 TGCTACCTT CGGCCAGAC TATCTGAGTG AGGAGTACGT GACGAGACTG GAGGGGAAA 420
 20 TCCAGACAA GTACGGCAG TTTCTCGTGG AGGTTCGGG CGCTGTTACG CTCTGCAATT 480
 GCCTTGAAC AACTTCGAA GGAAATTTG GCGTTGGTA CTTCGGGCC CTTCAGATG 540
 25 GCACCAAGTG GTTGAATGTC CTCGGCATCA AGGTCTTAG CACCTTCATT 590

(2) INFORMATION FOR SEQ ID NO:875:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1549RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:875:

50 GATCTGCTTG GTCTGACCAC CGAAACCCGA CTGCTTACGG TCATATCTTC TCTTACCTG 60
 AGCAACACAG GAAGCCTTAC CCGCCTTGTG CTGGGTACCC TTGTGCTGGG TGTGCTTGGC 120
 55 GCAGGCTTTC CCTTGCAGT AAGTCTTTCT GGTCTTTGGA ACGTTAACTG CACAGTTAG 180

TATACGTCCT CTGCGGAGT CCCTTTTGA TCTOCAGCG CGCGGTGAGA AGGCGCTGCT 240
 5 GTAGCGAGCC GTGGCCCCCT GCGCGCGCTC CGCGCTTCC CTCGTCATA TTGAACATAC 300
 CCATTGCGAG AAGTAGCTTC TGIGATGCTC TGTGCTTACT ATCAAGCAGG ATGACACCGG 360
 10 GCGTTGAATC CTGAAATTTA CCATGTTTTT CGCTTGGGA GCTCGGCGCG CGGCGCGGCG 420
 GCGTGGCGCG CCGGAAGGTC CAGTCTGCC CGGCTGGGT CGCGCCAGTT CACCGCGGCG 480
 15 ACCACCGAGC GTGGTGATGC AGGCATGTC AGTATGTGTG GGTTTGAAT AAATAGATGT 540
 ATGGGTGTAG TCACATGTTT GTCACAGCA CTCCTCGCG GCTAACGCT CGAGATTGCG 600
 20 CAATGGTGT GCGGCATAG GCGATGCGAG CCATGCCCTG AGCTCTGCG CGGTTTAGAG 660
 CCCAAGTCAT TAGACTGCG CACTGCAAGC GTCTGACCG CAGGTTTAA GCTGGTGTGT 720
 25 GCGCTGCGC TAGTT 736

(2) INFORMATION FOR SEQ ID NO:876:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1549UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:876:

50 GATCATGTA TAATCACCC ACAGCACCTT TTGCAGGTTC TCGCGCTTGG CCCCAGCTT 60
 CTGCTCGTAG AACTTCGCA ACAGACTGAC GTTGAACCC CACCATCTG CAGCAGAGCG 120
 55 AAAAATCACA TTGTTCCGG ACGGGTGAA GTATATGTCC GCATCATCC GCTCCACATA 180

CTGGGCTTG GGTCTGTCT CCAGTTTCTC TCTCCAGAG AGGTCAUCC GCAGGCGCTC 240
 5 CCGGCAAAG AAGGACCCCA GTACAGAGTT GACCTGTTCA ATGCTCTTGG ATAGATGCAC 300
 GTAGGCTTCC TGTGGCGTCA GCTGGAGCTC CGTGATCAGC CGATCGATCT TGTTCAGCAC 360
 10 CAGGATTGGT CTCAGCTTCT CCGTCCAGCA CTGCGGCAGC ACGTAATCG TGTGGGACA 420
 CACACCTCG ACCAGCTCA CCAGCAGAT CCGCCATCA CATAGCCCG AGCGCGGCT 480
 15 AACCTGCTG GAGAAGTCTA TGTGGCCCG AGAGTGCATC AGGTGATTA AATGTTGTT 540
 GACCAGCGC TCGCTCTCC CTTCTGTTT GTGAAGCACT CGAAGTTAC AGAGAAATG 600
 20 CACTGGACTC CATCGTATG CTTCCAGCT GCTCATCTGG CCGGAGTCT AGGAATGCA 660
 CTTTCCCGC TAACCGCTGT GAGATAATAC CGTTGGATCC GAGGAG 707

25 (2) INFORMATION FOR SEQ ID NO:877:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 30 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1550RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:877:

45 GATCGAGTAC ACAAAGTACA TGATGCTGC CAATAACTAT AGTCTGAAAT CAATGCGTTC 60
 CTTAGCGAAT GCAGATGAGT TGGCGCAGCT GGCATCATTT AACTCCATCA GCCATTATTT 120
 50 ATTGGCTGAA TGCCATCTG TCCAGACACT ACAATTTTAA TTAAGCTCAT CTAAATGTGA 180
 CCAAAATTA ACGAAGGAGA ATCAAGAATC TGCAATTATC GAAACACTGC TGTCTCTCAG 240
 55

TGAATTTACG TTGCTGCACG ACTTCTCTCT CCAGGCAGGT TTCCAGGTGG AAAAATCGGT 300
 5 CATTTTGAAG TACTTTTGGC GCTTTTTCAG CAGGCAACA AATGGGTCCA GGGGACCGGC 360
 CAGAAATGAC AAAGGCGAGG AACAACTCTT GCTTACTGCC CAAAAGGAC TATTATTATC 420
 10 TTGAGACTCT TCTTGATGTC GCAGACGCTT TGGCAAAGTA TTGGCTAAGC TACTCACGTG 480
 GACAACCCCT CAGACCATCG CATATATTGG ATCTCAAAGA TGATCCATTC AGAATCATAA 540
 15 GCAAACCTGT AGAAACGAAT CCCAGTCTGT ACCGTGACGT TGAAAGGACT TTGAAATCC 600
 TCAAGCAATT ATATGAAGGA TTGCAACTGC AGCTCATGA TCCAAAGTAC ACAAGTGAAT 660
 20 ATACCGGTTT GCTAGTCTGT CACATGCAAT GTGCATTGGC AAATAT 706

(2) INFORMATION FOR SEQ ID NO:878:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1550UP

40
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:878:

45 GATCTCTCTC CGGATATCA TGCTAGCCA GGATTCAGG TGTTCAATAT CGCTCATGTG 60
 TCCCGGTTTA CTGGAATCCA TCCATTCTGC CCGAGCCATG ATATACTTGG CCGGATACCC 120
 50 AAACCCCAAA TCCCGCAGTG CGTCTCTGCT AGGCTCTTCC ATCAGCTGCT TGCTGGTGGG 180
 GAATGAGTAG TATGGAGTAC CGTGAGCTC GCGAGGAAG CTCCCGTACT GCGAACACAG 240
 55 TGCATGGCAC ATCTTCGTGA TGGCCCGAT ATTGTTGTG CTAGAGCAAA TAAACGAGCA 300

CAGTGTCTCC CAGGGTTCCT GTGCGAGTAT TCGACGCCA CGATGTGTTT TCCGATGAA 360
 5 ACGTGTGTCT GCTTTCGCC ATTCTGCTAA CAAAGCCTCT AGGTTCAGCT CCATCCGTAG 420
 GTAGCGCATC AGCCATTGTC GTGCGGCCCC GCTGCGTGG TCATCTTTAT TCCCAGCTAC 480
 10 GCTGAATTCA ATACTGCACT GATCGGGCTG CTTCANTACA ATAATACGAT AGCCGAGCTT 540
 GTCATTAGT AGCATGCTGG CGGAATAGTA CCTTTTCTCA TGATTCCAGA TCCACCTGAA 600
 15 CGCTTGACCA CATTGCAATA CATGGTCCAG GACTATTCTT CCTTTGGGA ATATCAATCT 660
 GTTAACTTC ATAACTGTGG ATACAGCACT GACCTGCTC TAATAATCAG CGTCAGGCG 720
 20 CTGGCTCGAG CATGTT 736

(2) INFORMATION FOR SEQ ID NO:879:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1551RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:879:

45 GATCTCAGT GAATGGATA TCTGCTCAAC GGCCAATTCT CGTATATTCT GACGAGATCT 60
 TGGCGTCAAT TAGTGCCTT TTGGCCGAG CCTTGGCAG AGCTTCTAG ATACAGAATG 120
 50 CTGCCAGGTG CATTTTAAAA AGCGGGTTTA CAGTGAGCCC TCCGTCTTC AGGCACCAG 180
 CCCTAACTG TACATAGTTT CTGTTATGTA GTTTGCTTT CCTCGGATG CCTGCTCTT 240
 55 GTGGAACAAA AACAGGCGGT AGAAGGAAAT TCCCGTGGT CATCGGTATC GGACGGGTC 300

TGCCTGATC TGGGAGTAG CTTTATGAGC CATTAGTGAG GAACGCCAGT TTGACGACA 360
 5 GATTTAGTCT TTCTGTGTT CCGCAAACA GCGTTGGAAT GTATCAGCC GCTGGCCAG 420
 CGACAGGGA CACCGCTTCA CATAGGAGA GGCCACCCAC TGAACACGG GTGCACTGTC 480
 10 AGGGGGGCA GCGTACTGCC TACAATGGTA TGTCCGCAA ACCGCAGCC AACCGGAGA 540
 GCGGCATTT AGATCTAAAT TTATCAGCC ATGACGGAT GGATTACGG CAGGTGTGC 600
 15 CCGCAGCAG GGGCAGCCA GACTGCGAGG TGGCAAATAA TTCACATAG AACCTGCATT 660
 ATAAACATCC CAAGTCATTA AACTTACTAA ATATTGTTC GT 702

(2) INFORMATION FOR SEQ ID NO:880:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 735 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1551UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:880:

GATCCCGGTG AAGCTGGCA ACTGCACGT GCGCTACGAG GACCCGGGG GCGCAGTGA 60
 GCTGGCCAC TAGACTACT CGAGGAGCT GGACCGGTAT CTGAAGATA TCGAGGTGA 120
 45 GTACAGGTG CTGGGTACA ACTGGCCAC GTTCTGGCG TAGTGCAAG AGCTGGAGGA 180
 GCGGAGTTC CGGAGTCT TCTGGAGCT GCTGGGTAC GCGCGGAGA ACGAGGTGA 240
 50 CGGCGGAG CTGTGGGGG GCGTGTGAA GGAGCGCTG ATGCAGGAC TGATCAGCG 300
 CAGAAAGGC TGTCACTCA CCGTTGTG CCGCGAGGA GGAGAGCAG CGACGGCAG 360
 55

TOGAGGACGA CTGGCACAGC AAGCTGGAAG AGCGGAGCCG CTTCCTGGGG CTGGGGAGCA 420
 5 AGCTCGTGGC CAAGCGTGCC AAGAAGACCA AGGAGCGGCT GTGGACGGTG CTGTGGGAGC 480
 GCTTCAGAG CGACGCTAAG ATGAGAAGA TGCGGCGCCG CAACGAGGCC GCCACGCCCC 540
 10 AGCGGGGGCG CGACGAGCTC CTGACGCGCG GCGAGCGCTA CGCGCTGGAG CAGGGGCAGG 600
 GCTTCCTTGG CGCTGTGCTT CCGTGTGGCG GAGCGGGCGC CGGCGCTGGC CGTGCGCTGC 660
 15 AAGGAGCTTC CGATGAATA CTGCATCACC AAGACTGACT TCGACCGGCT CGCTAGCCAC 720
 GGCATCCCGG TCGAG 735

(2) INFORMATION FOR SEQ ID NO:881:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 804 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1552RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:881:

GATCGTGGGC TCATGCCACC ACAACTTCCA CGTCCACTGC ATCTACCACT GGTCAACAC 60
 45 CTCCACGTCC AAGGGCTCTT GTCCGATGTG CAGCCAAGCG TTCTCACTCC GGGAGGGCAT 120
 CCGCATTAAC GAGCCCCACC GCGACAAGTT CGAGAAGGTG TTGATGAAGG CGGCGCAGCA 180
 50 GAGCGTGGTG AGCGTGGCGG GCGCCAACCC GGTGGGGCCG GACCAGGAGC ACGTCATCAT 240
 CKACCAGGAG TTCATCCGCT GACACTAACT AGCCTGTGTA CCGATGTAAA AATAATGCTT 300
 55 CCAACCAGAT TCGAACTGAT GATCTCCACA TTACTAGTGT GGCGCTTAC CAACTTGGCC 360

ATAGAAGCAA TAGGAGGTC TAGCGACTG CGCGGGCTA TATCGCGCGG GCGTGACCGC 420
 5 GACGAAAGC TGGGCCCCAA ATACCTGATC CCAGGTTTC AACGCTGGTC ACCCAACTTC 480
 TGGCAGTGC ACTGCACAC ACCCCAGCAC TATATAGCCC CGCACCCGCC AGGCGTTCTT 540
 10 GCCAGGTCAC CGGTCGAGC TGTGCTGGCA GCATTCCACC TGAAAAAGTT TCACCAGCAG 600
 AAAGACTTTT CCACTTCTCA ATAGCACTTC TATCCCTTAT TTCTCAGCA GTTTTGCAAT 660
 15 GAGCTACACT ACCAGACAGA TTGGAGCTAA GAACACCTTG GACTACCGGG TGTTCATCGA 720
 GAAGCGGCA AGGTGCTCTC GCGGTTCAC GACATCCCAT TGTACGGGA NGAGAGAACC 780
 20 AATCTTCNAC ATGGTGGTGG ANAT 804

(2) INFORMATION FOR SEQ ID NO:882:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 490 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1552UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:882:

45 GATCTTCAG ACACGCTGC GCGGTAGTC CGTGGAGTG CAGACTGGT CGCGAATAA 60
 ATAGCTTTGT GCCAGCGGT CCGGAGGGG TTGGGGACT CACCGATAA AAGAAACAG 120
 50 CTGGGGCGC GCGGCGCAA AGCAGCCAG CGCAACGGG GCGGCGCAA AGCAACGTG 180
 ACACAGATA TGGCAGATT ACCTACATAT TATACATAG CCGCGCGGC ACCCGGCTCA 240
 55 GCGGCGAAG CCGTACAATG TGGGCGCTG GCGTTGAGC GGTACACGA CGTGGAGGA 300

GGTGACGGTC TTGGGCTTGG CGTGCTGGGT GTAGGTGACG GCGTGGGGA TGACGGACTC 360
 5 CAGGAACGAC TTGAGCACCG CCGGCACGTC CTGTAGATG AGGCGGAGA TCGGCTTGAC 420
 CCGGACAGG CCGGACAGG GCGGATGGC GGGCTTGGTG ATGCGCTGA TGTGTGCGG 480
 10 GAGGATCTTG 490

(2) INFORMATION FOR SEQ ID NO:883:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 691 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1553RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:883:

GATCCGCAGG TGTACACGT TCACAACTG GTCCGGTAC ATCATGTTGA ATGCTTGA 60
 35 CTCCCCGC GTCACAGCG TGTGGTGGG GAAATCCATC GAGCTGACCA TGACGAGTG 120
 CCCCAGAAC GTCTACCA CCGTGTGCT GTTTGGGTCC AGCAGGTGA GCATCCGTT 180
 40 CTGCGCGCA ACCGCCATCA GTGGTTGCT CGACTGCATC AGCTTCACT TCGACGAGTA 240
 CTGCACCGTG TTGCTCAAC GCGCTTCAC CAGGTCCAC GCCACAGCC CACTGGCCAG 300
 45 GTTCGTCCC CCGCAGTACA CCGTGTCTG CGAGTTGCT CCGTAGCACA TGCCCGCAT 360
 GTGCATAGT TGTGGATGT CCGCCGAGT TACGTGAGT TTGTCACG TGGCCCGTT 420
 50 CCGGAGTTC AATGACTGC CCGCAGCA CAGACGCC TCGTTGTGGC TCAGCAACTC 480
 CACCACCGC TCTGCCCGA TGTGTGGCT GTCCCGGTG TATAGCGAGT ATGACGGTC 540
 55

GTACGACGAC ACCCGTCCGT ATGTGTCCCC ACCCAGATCA GATTGACGTC CTGGTCAAAC 600

5 GCCATCTTGG TCGCGCTCTT CTCCTTGGGG TGTAAAGCC AATACAACCT GCGCAGGTGC 660

TCGGTGAGCT CCACCGGCGA CTGGTATGAA A 691

10 (2) INFORMATION FOR SEQ ID NO:884:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 708 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1553UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:884:

30 GATCGCGGCT GTGTGCCCCC ACCCAATGCC TACCTGTTC ACTGTCTCCA GGCTCCACAC 60

CCGAATGAG CGGTGATCG AGCATGATGC AACCAGTGGC CCGTGTGTC TCACACCGC 120

35 GCAGAAGATC GAGCCCTCGT GCGCTCCAG CCGCTGCAC ACCGCCCCCG TGTGCAGCTC 180

CCACACCACC ACCCGGCCCC TCACCGTCC CCGGCACACA TACACCGCAT CCGCCACCAC 240

40 CTTCACCGAC CCGAGTACA GCAGCGACCG CTCACCGCG TTGATGCTGC GCACACACCG 300

CATCTCCAGG TCATCTCCA GCACCGTGT GTAGCAGTC AGCAGGTAAC ACGAGCGCCC 360

45 GTCCGGGCTG AACGCGGCCC CGAGCACCA CTCGGGCGTC ATGTACTCGT GATACTTCAG 420

GTTCGGCGGC GTGATCAGT CCTCAACTC CAAGATGCTC ACCGACCGGT CCGCATATGC 480

50 AATTACCCAC CCGTCTGCA CCGATATCC GTGCACCTTG TTTCCTGGA AAACCCGCA 540

GGGTTCAGC AGCACTCCG CCGATACTC GTATACGTAG ATTTCCGGGC CGCACCCTGC 600

55

TAGGCACCTC CGTCCCCGA GAATCCGCAC TGCAGTGCAT GGCGCAATGT CATTGACCTT 660

5 ATCCAGCGAC ATATTTCATCG TTTAATCGAC TATGATCCCG ATCTAATG 708

(2) INFORMATION FOR SEQ ID NO:885:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1554RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:885:

30 GATCAAACTA GGAATTTTGT ATAATACTGA AGAAGGTCC ATATTCAAGT CTCTATCCAG 60

CGATGATGAG GAAGTGGGTG AGATTGTGCT GCACGACCTG ATGAACAATC TCGATTTCAT 120

35 AACTATGGAT CATCTGACA GATCGAGAAA CCAAACTCAT CAAGATAGAC CGATGATGAT 180

CAAGAACTAG TTTGAGATCC CTCGTCTACA AACACATACC TAGATTTCCTC ATATTTCATA 240

40 CTGAATACAT ATAATATATC ATTAACTGT CTTCAATTCAT GAGACGTCTG CTAAGTTCTG 300

TGCTGCTCAA CTGTGTTTTT CACTGTGTCAG CCTCTTCGCC CCCAGTAGG TTCACACAT 360

45 GCACGGCTAG CTTCTCTATT CCTTTGCTCT CACGGTATC GTTGATTGTC TGGGCACGG 420

CCACAGTTTC CTCCTCACT ACCAGGGCTT CGATACCAGG TTGCTACCC GTGGCCCCGC 480

50 ACAGTCTTG TAACGCAAT ATTTTGATTT CCAGCCCCGG TTTCAGCCTG TGAAGGAAG 540

TGCACAGTT ATCGCATCGT TGTGGAAGG ACTGAAGCTG CTCCTGTAT TTCTGTCTC 600

55 GCACAGTTC TTCATCTGTA ATCCCCAGA TCAGCCGGGA AGCAGTCAAG AGCGGGCAA 660

CACTGAGCAA TATTTTATGT CCGTCGTGTA AGTGGTGGAA AGTGC

705

(2) INFORMATION FOR SEQ ID NO:886:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 727 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1554UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:886:

GATCACTGAG GAAATCAAAA CCTTGACGAG CTTCCTGTG TTGCGTTGT ACGGTGTGGA	60
CTGTGCCCCA GTTGAGACTG TCTTCCAGC CAAGGCTCCA GGC AAAAGC TCTTCTAGG	120
TATCTTCTTC GTGACCAAA TTGAGGCGG CGTGAAGGC ATCAAGGAGG CTGTTGAGAA	180
GCATGGATCC TGGGACGACA TCGACACCAT TTCTATGGT AACGAATTG TGAACAACGG	240
CCAGGCGACC GTGGACCAGA TGGCTGGTGA CATGAAACT GCGCGCAAGT GCCTGCTGA	300
GCGCGCTAC AAGGCGCCAG TTGTTTCGT GCACACTTC ATCGCTGTAA TCAACAACCC	360
TGGTCTATGT GACCTATCAG ACTACATGC TGTCACGCC CACCATACT TGACTTCCA	420
CACTTCTGCT GCTATGGCG GCGTTGGGT TTTCACCCAG ATCCAGAGAG TCTGGAGGC	480
CTGCAACGGT AACAAGAAAG TTGTCATCAC CGAGACCGC TGGCTACTC AGGTCAGAC	540
TTACGGCAAG GCCATTCCAT CCAAGCCAA CCAGAAGATG GCGTTGGAAT CTATCAGGC	600
CACTTGTGGT GATAGCGCTA TCCTATTAC TGCTTTGAC GACTACTGA AGCCAGATGG	660
GCGCTACGGT GTGAGAAAGT TCTGGGGTAT GCTATAAGT GCGTGTGCT TCTTTATGAC	720

CTGTC

727

(2) INFORMATION FOR SEQ ID NO:887:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1555RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:887

GATCATACAC GCATTGCAGG TATACATTAT AGTGTTCATA ATTATCGGAT TGCAAATAGA 60
 ATGGGGGOCCT TACCGTAGTA CTGTCCTGGT AATGCAGOGA CGCTCAGGCT TAAGAAGCCT 120
 TTGTGTCCTC GGTATTACT AACAAAATAA TTCTCTGAG CACAGGGAGT AGAGATGAAT 180
 TACATAATCC ATATGGACAC CTGTCACTT TCCAGGACA TTAACATTTC CTATGAATG 240
 CCAATAATG GTGCTAAAT GATGTCTTG GTGTAATCG CATTATAAAA TGTATGTGA 300
 TTATATATG TTGTAGCAT CTAGTAAAC CATGCTAGG AGGTCTTTGG CCATACCTT 360
 CTGAAGAGAG ACATAGCAAC AGTGTCTGT GCAGACAGTC TGCGTGAA TGTGCTTG 420
 AAGTAACAT GAGTACCAAG ACTCTCTTA ATGAAGCCAG AGGTCCAGA TTCTGTGAAT 480
 AGTGGGATG ACTTGAACA CTGACATCT TCTGGCTAA AGAACAATA GGGCACTGTG 540
 ACGACGGCT TGTGAACTT GAATGGATG GCAGTTAATA TGATTCTCTT GGCAATATC 600
 CGTGTGTGT CTGGTTCAG GAAGTGCCG TGGCCACGA ACGTCAGGC CTTTGATCA 660
 GAAGGTTTTT CTTTGAAGTA GATGGCCGT GACTGGGTCA GTTCCAGGG AA 712

(2) INFORMATION FOR SEQ ID NO:888:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 689 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1555UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:888:

GATCTGGGAA ACAAGCATTC CAACCTAGTT GGAATGGCTG GCAATTAGCA GCTGCGGCAA 60
 GGCAGATAAA GCTAACTGTG GCATAGTTTC CGTGAGTTTT GATTGGTTT CTCAAGCAGG 120
 AATACTTTGC TGGCCGCCAC GGNCGCGT TTTATACTGT CAGGCCAGCC CGCGGCTGTC 180
 CGGTAATGC CTGGCAGACC CGCTCTAGGG CACGCCGAAT CGCCCGTGAC AACGCTGCC 240
 GCGCAAGAT GAGCACTTAA AGGCGCGCA GCTCGGCTA GACAACTGA TGGTAACGTC 300
 GTATTGTAAT ACTTAACTTA TACAGGGTTT ATTGATTATA TTAATCAGAA ACTGCGGTGA 360
 GACCCACAGC CGCGCGCGCG AATTGTGTAC AGTAGGCGGC AGCGGCGCGC CGCGGCTCT 420
 TAACGGTACT TGTGGAACC AATGTGTGTG GCTTCTCTC TGAAGCACTG ACGGCAGATG 480
 TTCAAGCGGT ACTTCTGAT CAAACAGAG TGGGAAGGC ACACGGGCA CTGCGGGGAG 540
 CCCCTACCGT AGTTCTTGG GTGGGAGAAC CAAAGTTT CGTAGCCAT CTGTCTGCA 600
 ATGCGTTAGT ACTCTGTCTG ACCGCTTGA AACGCTCGG CCTGTGTGA GCTGCCACA 660
 CGCTGGCGT CTGCGCGTC CTCATTGCC 689

(2) INFORMATION FOR SEQ ID NO:889:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 700 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1556RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:889:

GATCAACCAG TGGCCGAGT CCTATACGAC CGGCATCAG CTGGTGTTCG AACCTCTCGG 60
 TGACCCCTCG AGTACCTGC CTAAGGATAG TTTGCCGCCA GAACACCTG ATGAGGGCTT 120
 CACGAGTCTT TCTGGGTTCG AGCTGCAGG CGCTTTTGCA TTCAAGTGTC AAAATCCAGG 180
 AGTCACCTTC GTAAATGACT TCACGGTAGA CGTATACCG GCTCAACTT TCAGCTGCT 240
 CAATGATAAT ATCTGCTTGT GTTTTGATAT TCTGAGAAGG CAGAAGTGGT GGCACACCTT 300
 CTTATATCTT ATTTCACAAC TTTTGCTGCA TCAAGGCCAG GATTCTGCG TAGGAGACGC 360
 CCGAGCACCC GCAGCCCCAC CCCCCTCCA CCGCCGCCA TCAAGCAACA AGGCTGTTCG 420
 CCGAGCAAGT GGGGCGAGT CAGCCACGCT AGGGGACGAA AATATGCACC AACTTACCTT 480
 AACGGAAATT ATGAACAAGT CTGTGATTCC CGAAGATGAC CGATGATGGA TGACCGCATT 540
 GAGCTCTATG TTAACGAGAA CTACGTCTAT CTGGGGACCA GGAGGGTTGC AGCTTCTATA 600
 ACGATCCGAT TGAGAGGTGG GAGGCGTTTG TAGAGTCACT AAGACAGATG CTTACGTAGG 660
 TATATAATTC TCATCTCAGC CTTGGTATGT ATGCCCTTGT 700

(2) INFORMATION FOR SEQ ID NO:890:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1556UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:890:

20	GATCCGAATA ACGTCCACAT AAGGAGAGA CTAGAGGCTT TGA CTGCCCA GCTAGCCAAC	60
	CCAGGGGCCC AGCAGCCTCA GCAGCAGCCT CAACAGCAAC AGATCCAACA GCCTAGAGGG	120
25	CCAGCACCCA TTATGTTGCA GCCAACATTG CAGCAGCAAG ACCAACAAC TCCGTTGAAT	180
	AACAAACCTG CGTCTACCG GTCTCTCCC CAGCGAGTTG CGGTTGCCGG AACAGAGTCC	240
30	GCAGGCCACA CACCAATGTC AGGACGGCCT CAGCGGTGC AGCAGTTGAA CAATAACGGA	300
	AGTATCCTGG AACCGTCATT GTTCCGCCAA AAGAGGCCCA TGGAGGGTGG AATGATACA	360
35	TTGGTAAATG CCATTTGCA GCAGGAGTTG CAGCAACATC AGAAGAAACA TATGCTTCT	420
	CAGAACCATC CTAGTTTGGC CTTGGCTACA GGACAGCCC AGCAGTTACC ACCCGATGCC	480
40	GCTCCATTA TACCGCCCGA AAAGAAAGGT GCGCTCTCC CCCAGTTTCA GAAACTGAA	540
	CCAGAGCATG CGCAAAAAG ACTGAAGCAC GAGCAGAATA ACGTTTAAGA GCAACCGTTC	600
45	CGGTCTCGAA TATACCTTGG ATTACGCACC CAGCTTCCAT GGAACATTCT GGTCCGGGAG	660
	ATCAGAATCA CATCTATCT GGGCTTCAG TCCAGGCAAC CCAGGTGTTA CTCGGTA	718

(2) INFORMATION FOR SEQ ID NO:891:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1557RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:891:

20

GATCAGGCGA GACATTCCGT AGAAATATCA ATTGGTTTCA GAGGAGATCT GTCTCCTGGT 60

25

CATTGTAGAG AAGCGGCCAG ATATAATTGT CCAAAGTGAA CTGGTCTTTT TGAGAAAACA 120

CGCTTTCATA CACAGCGTCC GACTTTTGGG CTAGACCATA AGCAAGGTCT ATAACCTCCG 180

30

TGGCAGTATA ATTCCAGACC GCGGGTGGTT GCGGCGGAC AAGGGACTCC CAGTAOCCAA 240

GTAAATCCTT CGTCATTGAG CTTTTTTAAC ACAGAGCCAA CTAAGATCGA CATGGTAAAC 300

GACGGATTA MTTTGTAC ATTCTTATAG GAGACCAGAT ACATTTCAG AAGCACCAC 360

CGCAATCGTT TTAATGGGIG CAATCAGTGC CATTCTTGCA GCTGGGTCCA AACTCTAGAT 420

35

TTACAAACCC CCGCGAATT AGCTAGTGT GAACCAGCGA ACATGTAAGG AGTTTCATTT 480

CCCCACACTA TTGAAACTA CTGCGGTGAA CCGAGGTGGG GCGCATTA CCGCATATAA 540

40

CTGTGGGGTT TGATAACAAT TATCTCATAT TGTCTTTTTT ACCACAAAT ACATCCACTC 600

ATAGAGAGCA TTACGCCAAT GCAGTCAAT ATAACGGAGA ATTGTCATAT CAGTAOGTGG 660

45

AATCGCAGCA GTTGTGTGTA TTTTACTAAT GATAACGGCC GCAGCATAAG GCGTGTGTTT 720

(2) INFORMATION FOR SEQ ID NO:892:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 725 base pairs

(B) TYPE: nucleic acid

55

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1557UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:892:

GATCGCGGA TTTGGGCACC ACAGGGTAGT GTGGCCGCAT CAAATGATGG CACACACGGG	60
ACGTGGGTAC TCAGCCCCCT TATTGTATT GAAGAACAGA TTGATTAGGT CTGATCTTAT	120
AGCTCTGGGC AAAGCGGGGC GCCTTGGGCG CTGTGTGGCC GCGAAGTATC GCTTAGGAAA	180
ATGCTGTGA ATGTATATTA TACCTGACG GGAGCATTC AGTCAGGTGT CATGTATGGA	240
CTTGCTGCG ATTAACTATC GCAGCAGCCA TCTGATGCTT ATGCACATCA ACTAGCACAG	300
CAGGCATATG ATGCTTATTC ATACCGGGCG CCTATCGCCA TCTTCTTCAT ATAAAGGCAG	360
TGTGTACAG ATAGGTGCAT TGCTCTCTGA ATTCCAAAAG CTCATCGCGA GTGCAGATGA	420
AAGATCTGCG TTCTTTGGTC CCGCGCGAGG CGGCACCATC GTGGAATTTC AGTCACAAAG	480
ATGTTATTAG TCTTAGCCAT CAATTGATCA ACCAAACCGA GCGGGTTTAC CACAAGGTGT	540
TACAAGAAA GCCACCAACA ATTGACAATT ATATCATGCC TCTAATATAC CATGAGGAGG	600
AAACAGACCT GCTATGGAAC CAGTTGGTGT TTCTCCGCAA TGTTTCGGCC GATCGGAGA	660
TTGTGAAGC GTGAAGAAC GCAACATCA TGTGGACGA CTGGATTATT GGCCTTAGGT	720
CAAAGT	726

(2) INFORMATION FOR SEQ ID NO:893:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 708 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1558RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:893:

GATCTATTTT	GOOGACTTCC	CTTATCTACA	TTATTCTATC	AACTAGAGGC	TGTTCACTT	60
GGAGACCTGC	TGCGTTATC	AGTAGGACCT	GGCATGAAA	CTATTCCTTC	CTGTGGATT	120
TCAAGGGCCG	TGTAAGCCG	ACCGACCCA	GCATAGATGC	TGGGCTCTTC	CAGCCATAAG	180
ACCCCATCTC	CGGATAAAC	AATTCGGGG	TGATAAGCTG	TTAAGAAGAA	AAGATAACTC	240
CTCCAGGGC	TCACGGGAC	GTCTCCACAC	TCAGTTACGT	TGCGGTGAAG	AATCCATATC	300
CAGGTTCGG	AATATTAACC	GGATTCCCTT	TGATGGTGG	CCTGGAAAAT	CAGGCCTTTC	360
AAACGGAGCT	TCCCATCTC	TTAGGATCGA	CTAACCCAG	TCCAACTGCT	GTGACGTGG	420
AACCTTTCC	CACTTCAGTC	TTCAAAGTTC	TCATTGAAT	ATTGCTACT	ACCACCAAGA	480
TCGCACTAG	AGGCGTTTC	ACCCAGCTTT	ACAGCCTAGG	CTTCGTCACT	GACCTCCAG	540
CCTGCCTACT	CGTCAGGGC	TCATATTTC	CCTGACGGTG	GAGTATAGGT	AACAGCTTC	600
AGCGCATCC	ATTTTCAGG	CTAGTTCATC	GGCGGTGAG	TTGTACACA	CTCCTTAGCG	660
GATTCGACT	TCCATGGCCA	CGTCCGGCT	GTCTAGATGA	ACTAACAC		708

(2) INFORMATION FOR SEQ ID NO:894:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 671 base pairs

(B) TYPE: nucleic acid

(C) STRANDELINNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1558UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:894:

GATCGGGTGG TGTTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG	60
TTCTGGGGGG AGTATGGTGG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCACCACC	120
AGGAGTGGAG CCTGCGGCTT AATTGACTC AACACGGGG AACTTCACCA GGTCCAGACA	180
CAATAAGGAT TGACAGATTG AGAAGCTCTTT CTTGATTTTG TGGTGGTGG TCATGGCCG	240
TTCTTAGTTG GTGGAGTGAT TTGTCTGCTT AATTGCGATA ACCAAGGAGA CCTTAACCTA	300
CTAAATAGTG CTGCTAGCAT TTGCTGGTTG CGCACTTCTT AGAGGGACTA TCGGTTTCAA	360
GGCGATGGAA GTTTGAGGCA ATAACAGGTC TGTGATGCCC TTAGACGTTT TGGGCGGCAC	420
GGGGCTACA CTGACGGAGC CAGCGAGTAT AACCTTGGCC GAGAGGTCTG GGTAAATCTTG	480
TGAAACTGCG TGGTCTGGG GATAGAGCAT TGCAATTATT GCTCTTCAAC GAGGAATTCC	540
TAGTAAGGCG AAGTCATCAG CTGCGTTGA TTAGTTCCTT GCGCTTTGTA CACACGGCCC	600
GTCCTAGTA CGATTGAAT GGCTTAATGA GGGGCTCAGG ATCTGCTTAG AGGAGGGGCG	660
AACTCCACCT C	671

(2) INFORMATION FOR SEQ ID NO:895:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 622 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1559RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:895:

10

GATCCAGAAT CCAAGTTGCG TGTTCTGAGC AACCGCCGCC TGGCAGGTT ACGAAGCAGG	60
CTAAGGAAAA GGGCCCTGGA TGCCGAGCAC ATCTCAGAAG TAGTACAAAG CATAAAGGAG	120
AAAAGCAAGC CAAGCGCTGA AAACAAGACC GTGGGTGAGC GGACTCCCTC ATCCGCTGGG	180
GTGCTGATC CTAAGAAGCG GGTAGTUGAT GTCCCAAACA ACCCGCCAAA CAAAGTATTG	240
CTGTACAGG ACCTGCCAAC AGACATTACC GAGCAAGAGC TGGTGGATAT ATTTGCAAAC	300
GATAAGTTC TCCAGGTAAG ACTAGTCCAA GTCCGGCAAC TGGGTTTGT AGACTACGCC	360
GATGTACAGA GCGCTACGGC GGTCAAGAAC AACTGGGTA CAAATTATGT GATCAAAAAT	420
CAAACAACCA TCATAGGTA TCGGAAGTAC ATAGGGCGGT GGGGATATGG GTTCTTACCA	480
GTGGGTGGGA ACCCGACAGA TCATTTAGGT AACTACATAA TGATAGTATT TACMAGACTC	540
CTTAAGTGC ACGTGCTCG ATGTCATTTC CCAAGAGGA CTGTTCTCAT AGCTGTGAGC	600
AACGACTCTT TGCTGGGTC TT	622

40

(2) INFORMATION FOR SEQ ID NO:896:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 643 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1559UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:896:

5 GATCCGATGA CGTCATGTT CTTCACAAAG AACAAAGCACA TGCGATGCGA CTTOGGCWC 60
 GGGGAACAAC AACAAAGATGA ACTTCGTGCT TGACAACAAG CAGGAGATGA TAGACATCAT 120
 10 AGAGACGGTC TTCCGGGGGG CCAGGAGAAA CAAGGGGCTG GTGGTGTGCG CGTATGACTA 180
 CAACTACAAG CGGATACAAT AGAACATTTT TTGCAGCTAG TGTGTGCCA CGATAGAAAG 240
 15 TTTATACGCA ACCCGGCACA GGGCGCGGGT TGCTTGGCTC CACAGCTGGC GATCGAGCCT 300
 TGGGTAGGGC CCTGCTGGCC ATTATTCCTC TGACTCGACC TTACGGCTAT AGATGGTGTG 360
 20 TGGGCTGTTC TGCGGTGAT AGTGAAAATT TTTTGGCTTT ACGCTCCACC GGGTTCAGGG 420
 CTAGGCAGCA GGATAAGTAC WTAGGTCTTT CTGCTTCAGG CATTATATAA CCTCAAGCGA 480
 25 GCTTTTCAGA CCTTTTAGGC CAATATATCT CCAAAGTGTG GGCATCTGGA CTATTAAGCA 540
 GGAGGTCTTA TTCCAGCGTC ATCAAGAAAT CTGTGAGAAT AAGAACCATG GCTTCAGAGG 600
 30 ATGTGCAACT GGCAGGAAG GCTGTGAGT TTAACAGGGA GAA 643

(2) INFORMATION FOR SEQ ID NO:897:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 139 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1560RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:897:

55 GATCGCGGG AGGTTCTGTA AAAACCTTCC ATGCACAAAC CCCACACCAT GCTCCCGCTC 60

GTCTCTTCA AACTCTTCTG CACTAATGGT GCGTCGTCC AGACTTTAT CATTCCCGTC 120

5 AAACACTAAG TCAGGGATC 139

(2) INFORMATION FOR SEQ ID NO:898:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 139 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1560UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:898:

30 GATCCCTGAC TTAGTGTTCG ACCGGAATGA TAAAGTCGTG GACGACGGCA CCATTAGTGC 60

GAAGGAGTTT GAAGAGGACG ACCGGGAGCA TGGTGTGGGG TTGTGTCATG GAAGGTTTTT 120

35 ACAGAACCTC CGCGCGATC 139

(2) INFORMATION FOR SEQ ID NO:899:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 688 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1561RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:899:

```

5      GATCCAAATA AGCGTGCGGT CCATACAAAT GAACGGTTCG GTGAAGCTAC TTGCTCGGT      60
      CGGTATGAT TACTGGCACC AGGCTCTGGA TGACGCGGGG GGAGATGGGG CTGCTGCTAC      120
10     GGCAGCCAAT ATATACATCT TCTATAGGTC TAATTCATGT CCGCTTTTTA AAAAATGGCT      180
      TGGTCAATT TGTATCTAGT AGGCTATGTA ACGGCTCAGT CCGTGGACTC GGCGAAGGCT      240
15     TCTGGATGG AAGCAAAGAG CTTTTCGAAC TCTGGGTGGA CCTCGGGCTC GCGGCGGCTG      300
      GGCTCGAAGA ACTTGGAGGA CGAAACGGCG TGTTTCACGT CGCGGGTTGC CTCGACAGC      360
20     ACGGCCCCAGT TGGGCGCGTT GGACACGCTC TTTTGTGCTT CGTCGAAGTA GGACACAAAC      420
      GCTTTCATCA TATGTTAGT CTTCACAGTG GGCAGAAATG CGTCGTAGGT CGAGTAACCG      480
25     TTCTGCTGCA AGAAGTCTTC TTTGATTAGC GTGCGACAT CCAGTACGAT CTTGTCTTTG      540
      TCAGAGAGCG CGACTTACC GACCAGCTGA ACAACTTGCT CCAATTCTC GCGTTGGAG      600
30     AGGATCTCTT TGATACGGTC TCTCAGGACT GCGAACGGG GTAMTGTCTA TCATAGTATT      660
      TGTTTAGGAC GTTGGTGTTC CTTCGAGT      688

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(2) INFORMATION FOR SEQ ID NO:900:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1561UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:900:

GATCGCAGTC TGTAGTTGCT GGTACTGGAG TCTTGACTGC TCTATGCTC TTGCTTGTGC 60

5 TAAAAGCGAA GGAGACTCGG TTACTTGTAT GTTTTGCTGA CTTTCTGGTG GCAAAGGGG 120

TGGGGGGGGG GGTCGGACAC TATTTTGGAG CGGAATCAGC CTGAGTGTTC TTTTGTGTTT 180

10 CACCAAGGCG GGGTAACTTG GGGCCAGCG CTGGCCGGGG AGGTGATGGG CCATGAGCAC 240

AGCAGGTATC GCGGAATAT GGAGTGTGCG GGGGGCGGCT TATGTAGACC CAGCAGGTC 300

15 CCCAGCCATC GCGCGAATT GCGCTTTTTC TAGAGTCCCG CTAGGGGGCG TCGCGGGGG 360

GTCAGCGGCT GTGACACAGA CAAATAAAAT TGGCAAGCG CGAGACACAA GTCCACAAG 420

20 CCGCCACTGC ACGAAGCTAT GCACGCATTC AAGGAAGACT TACCCCATAC CGTGGGTTTT 480

GCCCTGACA ATGAGGAGAT CACATTCCCC AACTACGTGC CCAAGCATGT GCAATCGTTG 540

25 CCCCACAGT CCAACGGGAT CCGACAGCTA GTCATAGATA AGCAGAACCA GCGCGTCTTC 600

CCACATATA ACCGCTACT CGACCGCATG GAGGACGGCG TGTGCGCTG GCGGCGGCC 660

30 GCCAGCTCC ACGTGGCTC CTGCTAGCA ATCCAGGCA CGCACCGTA C 711

(2) INFORMATION FOR SEQ ID NO:901:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1562RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:901:

GATCATTGA GTGCAAGGG AGAAGTAGG CTTTTCACAG TAGTGGGT GTGTGGACAT 60

CCTAGGTA CTGTGACATTC ATGTGGGTCA GTCAGATTAC AAGTACACAA AGTCGATATG 120
 5 ACAAAGCCAG TGACCATATA TCCAAGACGC CCCCCAGGCG AGGCTGCTC TGTGCATAGG 180
 ACTGGCTACC TACCAGTTAC AATGGGGTTT GCAACTTAAC TGCTCTAATC CTCACAGCG 240
 10 GAGTTATATA TGTGCTATAG GGCATGCTCC CGGGGGGCAA TTCAGGGCCA ACGGCTGCC 300
 ACCATGCCAG AGCAGCCATA CCAAGGCTG CAACAGGATG CGATATCTCG TTCTATATAT 360
 15 ATACAGATAT ATATAATATAC TGTAACAAAA TCCTAGCGA TCTGGCTGTG AAAGGCGGT 420
 ACTTAAATCA TATGCTGTC TTCTCAGCC CGATGACA AAGCCGCCC ATGCTTCGG 480
 20 AAGCTTGAA GCTGGGGCGC AGAAGGCTC AACTGAGTG CCGGCATAT AAAGCGGTC 540
 ATGAGAGCA TTGTAAATGC CCAAAGCTG AAAAAAGCTG CTGGCAAAG CATCACTGC 600
 25 AGGAGAGTT GTAGGAGGC GCGAGCATG TAACTATAGT AGAAGAGGC GTATTGTGA 660
 AGCAATGTA CTGCTGGAA TTCAGGSTAT ACCAGCAGGA CGGAGAGTG AAGGCCGAA 720

(2) INFORMATION FOR SEQ ID NO:902:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 592 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1562UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:902:

GATCTGGGT GCATATATAA CGTATCTCG CTCACGGAC CTGGTGGGA CTCTTTAGC 60
 55 CGGCTACTAA CTCTGTAGT GTTGGGCTG CCGGGGCGC CGGGGGGA GCTTGGAGA 120

ATCCGCCGTT GCGTCACGGC CAGTGCCAGC CGAACAGGAC GCGCTTTTCT AGCAGCAGCG 180
 CTTCGCCAGC GGTTCCTTTT TTTCGCCAGC TAAGGTGTG TATTTCTCG CAGAGGGTTA 240
 5 GAAAAGTACA CTTTACATCT GAACACACCA CAAAGTGTG CTGATTGAG AGGCACGAAA 300
 CCAAACAATT GAAAGGTATG TTGAGTGTG ACGAGCGGT ACACTGAGCT GCGCGTCTTT 360
 10 TAGCAGCTCG CGGCCACCG CACTTCTCT TTTCGCCCTC TGTTCCTCT TCGCGCGCCC 420
 CTTCGCCCTG ATCTCGAGAG CCGCGGAGCT ACCGCGCGTC CCGCGCCAGC CTGGGCTTCC 480
 15 CAGCGCGCCA GTGGTCAGAG CCGTCGCCC ACGGCAGCG GCTTCATGG CCGCTGCGCG 540
 CTCGTGTTAC ACGGATCGGT CAGTGGCGT GTGAGGCTAA GCGGTGCGG AG 592
 20

(2) INFORMATION FOR SEQ ID NO:903:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1563RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:903:

GATCCTCGCT ACTTGACAA CATCAGGAAG GCGCTTCTG CAGGCTTTT CATGCAGGTA 60
 45 GCGAGAAAC GCTCGGGAGG GAAAGGCTAC ATTACTATCA AAGACAACCA AGACGTGCTC 120
 ATCCACCCCTA GCACGGTCAT TGGCCACGAT GCAGAGTGGG TAATCTACAA TGAATTCTG 180
 50 CTGACTACTC AAAACTACAT ACGGACGATC ACCTCGCTCC GTCTGAGTG GTTGATTGAA 240
 CTCGCACTG CGTACTATGA CCTTGATAAC TTTCAAAAAG GTGATATCAA GCTCAGTCTG 300
 55

GAAAGGATTA AACAAAAGAT GGATGCGATC GAAGAGCTAA GTAAAGAGCA ATCCAAGAAG 360
 5 CATAGACAGA GCGCGCGGTA NTTCGTGAGC TTGTTGTAGC TAAATACTC TCTGATATAG 420
 CATGTACACA ATAATAGGAC TTTTGAGCTG TCCTTGGTTA CTTCGGATTA GCAAATTATC 480
 10 GCAGAAGTTA GCAGGCACCG CCGCCCTTGT TGGTGGCTT GCACGAAAGC AGCTGGTGAT 540
 GTTCGGCGTC GCTAAAAACC CTCATTTGTG CCTATCATAT GCGCAGCGCT ACAGAGTCTT 600
 15 CGCATCATCA TGTTTGAGAA GGACGAGATA CTCCACTTG ATGAGGCCAG GTCCAAAAG 660
 ATAAAGGAGT TCCTGAGCT CTCCCTCGGG CTGATCACCG AATCCATCGA AAAGAAAGAA 720
 20 TATGACTCCA TA 732

(2) INFORMATION FOR SEQ ID NO:904:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1563UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:904:

45 GATGGTTTGT CTTCGAGCG TGGTACAGGG CTGCGATGG CGTCTGGGGC TGGCGGTGCA 60
 TATCGGAGAT ATGGCGCGGT GCGGTACGG CAAAGAATCA GCAAGACACT AGCGTCTGGC 120
 50 ATTCTTTTTC AATGCATTAT TTAGCTTTT TTTTITTTTT TTTTITAGTA TAGACACAAT 180
 ATAAAGTAGA GTTCGTCATC AGTAGCGCTC GTAAGGTTAG GCGCGCGCTT CACGCCATAG 240
 55 TAGCATCTCC GTCAGACTCC TGGATTGGCG CTTCCTCTAT GCGCGGGAT TCGCAACTG 300

CGTAGGGTCT TTCGTTAGCG GACTGGTTCC CACCGGCGGC ATGGGCAGGC CACGAGGGAG 360
 5 CTCCGGTAGC AGCCTGTGAC TTGTCTGGCA GCGAGCGGCC TGGTGGGTGC TCGAAGAAGC 420
 AGTGGGCGTT GCGACATTGC GCGCGCAATT TGCAGGGCTC GTTGATGGGG TGGCCGAAAA 480
 10 AGCAATCTAT GCGCGTGCAC GCAGCGCCCT CGCGGCACAT AATGTGTGAA CGCGCATGGC 540
 GGTACTTACA CCGTTTGTTC GTGCACTTGA CGCGAACTT ACACTGCTCG AGCGAACGCT 600
 15 CCGCTGGTGC AAACGCACCG GCTTGAAGG ACGTGGCGCA GCAGCAATAG GCTGAACATC 660
 TCGTATCTTG GACAAGGAAG ATGCGCCTTG TCGAGTCTT CTTGTACAG GTTAGGT 717

(2) INFORMATION FOR SEQ ID NO:905:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1565RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:905:

GATCAGATGT TTTCOCAGA GAGGACCTG CGGTGAGAG AGCGATGGGC CGTTATACCA 60
 45 CTGAGCCCTA TTAGTTCCTG GATTGTGTT TCCAGCAGCT GCGCATGGGG CCGGATTCCG
 TCAAGTGIGA TTCCGCAGAT GTTGGTTTIG GCTGATAAG TGCATAAGGA AGCTGCTCTG 180
 50 TTAGTACATG TCACATAGGA GCGTTCCGCA TTGGCCCATG GCATCCAGTG GCGGCTTTGT 240
 GCGCGACCG GTATTCCAGT AGCGTCTGC GAACGTATT CAATCATCTT TGGCCAGCG 300
 55 GTATATAAAG CGCTGATGA GCTTGATGC AATGGGGTGT AGCTGGGAG ACTGCACCGA 360

AGATGTCTAG CAAAGTTTCA TTCTATTGA ATTGGCAGCC TGGCCATAC CACATTGGA 420
 5 TTTTCTAGC CCAGTCCAAG GGCTACTTTC AGCAGGAGGG TGTGGACATT GCGCTGCTCG 480
 AGCCCAAGAA CCGGTCCGAC GTGACGGAGT TGATGGGTGC GGGCAAGGTT GACATGGGCC 540
 10 TAAAGGCGAT GATCCATAAG CTGCCCCCTA AGGCACGTGG TTTCGGGTTC ACTTCTGTTC 600
 CATGCTGCTT GGATGAGCCG TTCAACGGGG TTCTGTACTT GCGTGGCAAC GGAGTCACAG 660
 15 ATACTTTCAG CTCTCTTCAG GGAAGCG 688

(2) INFORMATION FOR SEQ ID NO:906:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 558 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1565UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:906:

GATCCCTTTC ATACAGGTCA ATATTTTATG CAGAGACAGG GGCTGGACGT TGTAAGGTC 60
 40 TTTCATCCAG ATATGCTAAG AGGCGAAATT TCATGCACGA GTATGATCAC AAAAAATGAC 120
 ACAGCCAAAC AAATTGCCAT TATTTTITAGA GGATCTACAG TGATACAGGA TTGATTATC 180
 45 GATGTCTAT CCACCCCTAT TCAATTCATT CTGCTCTTA CCCCTATCA GCGGTCACT 240
 GGAGCTGCAA AGTGCCAGG GAACTGTCTC AGGCACACTG GGGTCTACGA TCAATTTAAA 300
 50 AAAGCATTTA AGGATATTTA TGCTGTTTTT AAGCCGCTAA AAGACACACA TCGGATTAT 360
 55 GAGGIGATAG TTAATGGTCT TTCTTAAAGT GCGGCTATG CTCATTATAT GGGTATTGAA 420

TTGCAACTTC TGGGCTACAA GGCCTCATGTT TGGGCTTTTG GATCATTGGG TATAGGCMAT 480
 5 AAGGACTTTA ACGATTGGGT GGATGATATA TTTCGGTGG AAGACGTTTC GAGAAGAATC 540
 CCAAATAATG AGATGCCC 558

(2) INFORMATION FOR SEQ ID NO:907:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 645 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1566RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:907:

GATCGCGAAA CACAACGGC GCGGCGGGT AGGCGCGGG GCGCTGCTGC AGGACGTGG 60
 CGACGGCTC GCGGGCACT ACGGGTAGG AGTACATCA CCGGTACGTG GAGGACGAGT 120
 GGGTGTTC AACAACGGC GCGCTATGG GGCAGATGCT GATTCTGCAC GGTCTGTGA 180
 GCGAGTACT GATTCTGTT GGCACGGCG TGGCAACGA GGGCACAG GCGTGCCT 240
 TTGCGATGA CTACTTCAAG ATCTGCAG GGGAGCAG GCGGCACTG CCACACGGC 300
 TGGACCGGA GGTGTACAG CCGGTATGA CGCATCACT GCGATGGG CACGGGAAGC 360
 AGTAGCGAT GCGGTGGG TCTTTGGC TGGAGCTGG ACAGGGTGG ATCCCGTGA 420
 TGCTGCGTT CGTTTCTG GACACGTCA ACAGCACT CAGGIGTAC ACTCTGGCG 480
 GCACCGTGA GCTGACAGC CGGACATGT TCAAGAACTT GGTGTACAAT TTCAAGTTT 540
 AGCTAGATA CATAACACC ACCAATGTCT GCGAGGCTT CGGCCCGAC AGAGCTGCCA 600

GAACCCGACG CTCGGGCAGG TGTACGCCAC GCTGACGGC CACTC

645

(2) INFORMATION FOR SEQ ID NO:908:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 701 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1566UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:908:

25	GATCCTCAAG TCTACGAAG CCTCGAAGGT GTTACGAGG GCGTTTITGG CTGATGTCAT	60
30	CACAGCTGAG GCTAAGGGTG ATTTTGAAGC GAAGTCTGCT GTCCAGGTC ACGTGCAACA	120
35	GGCGGGCCTA CCATGGCCAA TCGACAGAAC CAGAGGAAGT CGTCTCGCGG TCGTGCGAT	180
40	CGGCTTCATC GAGGCTAAGC AGGACGTCAT TCGGAAGCC AGGGGAAAT GAGGAGGCT	240
45	TTGACTGGC CGACAAGGC GTCTCTCACA CCGCGCGGT CCTGGGCATC ACGGCTGCC	300
50	AACTGAAGTT CACCTGCATC AGGCAACTCT AGGACCTGGA AACAGAGTTC TCCAAGGGTA	360
55	TGCCAAAGGT TATCCACTGG GAGGCTACCC GCGGATTGC GGACCATTTA GAAGGCGCA	420
60	AGAGGGTAAC AGTTTAGTGT CTCTGTTTCG CCGGCTGCC CACTATATGT ACCACTAGAT	480
65	ACCAAGATTA TGGATAAACT TAACATGGCA GAGTACACTC TCATCCACCT GCGATGTATA	540
70	TAATGTGATT TTACTGACGA AAACGTGTTT AAAGCGCGTT GCAGGTCGG TCGAGCTCG	600
75	TATAAATATC TTGAGGCCAC CTCGATCTCC ATTGGTGAGG AAGTACCGT CGAGATACAA	660
80	TAGTGCCAGC TTGCTAAGGG GTAAAGCTGAC CACTCTACAC A	701

(2) INFORMATION FOR SEQ ID NO:909:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1567RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:909:

GATCAAAATGC CCTTCCTTTT CAACAATTTT ACGTACTTTT TCACTCTCTT TTCAAAGTTC	60
TTTTCATCTT TOCATCACTG TACTTGTGTG CTATGGTCT CTGGCAATA TTAGCTTTA	120
GATGGAATTT ACCACCCACT TAGAGCTGCA TTCCCAAACA ACTGGACTCG TCGAAAGAAC	180
CTTAGATGGC ACTAGCACC CCGCCAGACG GGATTCTCAC CCTCTATGAC GTCTGTTC	240
AAGGAACATA GACAGGGACT AGCAACCAAG GTACTTTCTT CAAATACAA CTGGACGCG	300
GAAGGCGCCA GATTTCAAAT TTGAGCTTTT GCGCTTCAC TGGCGTTAC TAAGGCAATC	360
CCGTTGGTT TCTTTTCTC CGCTTATGA TATGCTTAAG TTCAGCGGT AATCTACCT	420
GATTTGAGGT CAAACTTTGG GAATACTATT CGCTGGAAG GCCTTGTTC TGTAGCTTC	480
TTCAAGCGCC AGCTCCACTC CACGATCTGG TCGAAACCTA ATACGCAGTG TAGAACTAG	540
CTCAGACGCG AGTCCGCGCA AGTCCGCGCC ATGGCCAGCA TTTTCAAGTT AACCTGTCT	600
TACGACCGAG TATCACTCAT TACCAAACCC GAGGGTTTGA GAAAGGAAAT GACGCTCAA	660
CAGGCATGCC CCGTGGAAT ACCAGAGGAC GCAATGT	697

(2) INFORMATION FOR SEQ ID NO:910:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1567UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:910:

GATGCTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTCGTCTT 60
 ATGCAAAGTC ATTGGGTTTC CCTCTGGGGG CGCATACAAC AACTGCCCTAA CCTGAACAGT 120
 CTCATCCTGG GCATCTAGCG ATCCCATGGG TGAGCAGCGG AGGATTTGGT GGATTACTAG 180
 CCAATGGCAA TCCTAAACAA AGAAACCGAC TTGGGGGAAT GCTTCATTGA ATAGCUGGTC 240
 TTTCGACACT GTGATTCCTT GAGTGTAAAC TCCTCTTTGG TTGCGGATAT TAAACCTGTT 300
 CTGTGAACA TCGGAGCGGT GTTTAGTGGG AAGCAACTAG AGGAACTCAA AGAGTCTAT 360
 GGCATGGGGG CAGCTGTTCG GAAAGTGTA AACCCTGAGC TCCGGTTCCG TTGACACAGA 420
 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CGTGGTGTGC TTTGGGCATT 480
 TTGGGGTTGT TCTTTAAGAT AGTTATCTGG TTGATCCTGC CAGTAATCAT ATGCTTGTCT 540
 CAAAGATTAA GCCATGCATG TCTAAGTATA AGCAATTTAT ACAGTGAAC TCGGAATGGC 600
 TCATTAAATC AGTTATGGTT TATTGATAG TTCTTTTACT ACATGGATAT CTGTGGTAAT 660
 TCTAGAGCTA ATACATGCTT AAAATCTCGA CCTTTTGGAA GAGATGTATT AT 712

(2) INFORMATION FOR SEQ ID NO:911:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1568RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:911:

20	GATCAGGAAA CGGTGCTAT TAGGTTCCCA TGCAAAGGCC ATGCAGCGGT CCTTAATCTC	60
	CACCTTCTCA AATGGAACT CTCTGGCAGT CAAAGAGCAA ATCTCCATGT TGGTGAAGAT	120
25	GGTCTTCTA GACTTCGTGT GACGGTCCAC CTGTACACAG AGGAACTCTG CCTGGTCTG	180
	CCAATGGAAG GAGACATCAG TAACCTCCAC CAAGTTGATG GTACGCAGAA CACGGCGGTT	240
30	CGGTAGCTCA ATCAGGACAG CTTTACAGA CTGGTTGTTT GACTCTGGAG TCCAGTATAC	300
	CATGACAGTA GATGGTGGGT CGTGGGTCT GTTTAGGCC AACTTGATGC CCTTAGGAGC	360
35	AAAGGAGAAG TCTTGAACAT CCTGATCTT CATCACCTTA CCGCCCAACA GCTGGAAGTT	420
	CTTCTGGTC TGGTACACAG CAATTGCGCC AGGGCAAGA CGAGCCAGA ACTTGTGTC	480
40	AAAGGACCAC TTGACCATAG GCCATTGCAG CTGCTGCTGA GCGGCAGCG CAAAGTCTT	540
	CACGCAGACA CCTGTGCCA CATCCATAT ACATAGCTG TGGCCCGGG ACTCGGGCC	600
45	GAATGGACAA GCCTCGTTAG GTTCATCCGA GACTTCTAGA GGTTCGAGG AAAAGGTAAC	660
	CAGGTACTTC TGGTGGAGG ACATGGAGAT CGCCTT	696

(2) INFORMATION FOR SEQ ID NO:912:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1568UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:912:

20

GATCATCTAC GTGGCCCATG AGGATAATTA GGAGAAAGAA TTGAAATTG AGCTGAGCTG 60

GTGCTCCGCT TCGGAGACGG ATGGCTTGCA CAAGGAGGT ACCAAAAGAG CTATTGATG 120

CAGGATTGA GTTTCCGAAG AAGGAGACG GTCAGGAGAG TGATGATGAT TCAAGCGATG 180

25

ACAACGCATC TCGAGGTGA GAGTCTCAA CAAAGAAGGA TGCTGACGGT GATGTCCAGC 240

TTTCATGATA ACAGCCCGGC ATTATGTGGA GGTCATTTC ATGACAATTG ACGGATGTTA 300

30

CTAAGTGTAT ATTAAGTTAA TCCACCTATA TAAATTAATA ACATGCAAAG CAATTTAGAA 360

TTTGTCGAA AGCAGGTTAA AGCATGTCTA CTCTCTTAA TCTTTGGGGA AGCTGTACAT 420

TTTCTCTTC AAGTGAACGA ATTCTATCCA CGGCTGGGTC TGATTCTAAT TTCTTAGGTT 480

CGGTTCTGT GTACCATTC CGGTCAGCT CTCTATCAT TAATTTTGAA TGCTGATCAA 540

40

ATGTAATCTGA TTCATGAGAG CCGTGAGACA CCGGGATAG ACGTTTGATT CTTCTGTCTT 600

TTTCTTTAA CAGCAGCTTT ACATGTTCTT CCACTATTGA TGATGTGGCA TTTTGGGATG 660

45

AACATATAAA TAGAATCCA TTTCAGCTGG TTTCTTC 697

(2) INFORMATION FOR SEQ ID NO:913:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs

(B) TYPE: nucleic acid

55

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1569RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:913:

5	GATCCGATAT ACGCTGAGTG CTATATTACA AACCATCAAT TTGATGTTAT CTGCGACGTA	60
10	TTGTTGGTTA ACCAGACGAA AGAACTTTG AAAAAGTTGC ATGCGCAGTT TGCAACCCCTG	120
15	GGCGACCTGA AGATTATATG CAACCCCTCA AGCACCAATC TAGTTCTCTA TGGTTTCCAC	180
20	AGATTTAGCG TTACAGTGAA GGTTCAGT GCGGATCTG GTATAATCTT TGGGAATATA	240
25	GTTTATGAGG GTGGACACCG CGAAGATGCA CGCTATGTGA TCTTAAATGA TGTCATGTT	300
30	GCTACAATGG ACTACATTAA GCTGCGAGTT TGTGATGAAG CTTCTTTCCG CAAGAATGGG	360
35	AATGCATTTG AATGGGAGAA CAAATGGTT GTCAAATCTA AGCTACCGAC TCTGCATGAC	420
40	TACTTGAATA AGCTGATIGA GGTCAACCAT ATGAATGTCC TGAATCTGA AGAATCATTT	480
45	GGCGACCCCG AATGTGTTT CTTAAGCTGC AACTTATACT CGAAGTCCAC CTTGGGCGAG	540
50	GATGCTCTGG CTAATTGTG TATCGAGAGA GACCTACTA GTGGTTCCAT CATCGAGAA	600
55	GTTCGATCC GCTGAAGAC GCAGGGCCTT GCCTTGACC ACGGAGACAG TATTGGGCGC	660
60	ATGGAAAGGT CC	672

(2) INFORMATION FOR SEQ ID NO:914:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 698 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1569UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:914:

GATCTGCAAT GCTCTTCAAC AATTTGCTGC AAGCTATTCT CCTGATGACC TTGCCATCTT 60
 GAGTGAGCTT TTTGATTCCA ACAGCAAATC TGAATAGGOC TCTATCTCCT TTAAAAGCAG 120
 CGTGTGTCAT GGGGCTTTGG GTTTACATIG GAAAAGGCC CAAAGAACAA GGTAAATGCAT 180
 GCCAAAAGTA GCTTTAATC CACTTCACAT TTAGATATTG TTAGGCAGTG TATCTATACA 240
 AAAAATAACG ACAATAATA TCTTTTAGAG CTGGTCTTTT AGACTAAAAT AGGGCTCGGT 300
 ATGCAATACC TCAGATGCTA TCTTGATATC CGTGTGATA TCCTGATTA AAGCCCTCTT 360
 CGTGGTGTAG TTTAATTGG GCGGATGTA GCCAAGGAAG CTGAACCTAA TTTTGGGCCC 420
 ATAGAAGTCT TCTTCAAAGT CGTTTAAAT GTGCAACTCA ACGTCTTCT TACTGTGTGT 480
 ATAGAAGGG TTCCATCCTA CCGATAACAC GATTGGAAG ACTCCAGCT CTGTTTCCGA 540
 CAGCTTGAG CCAAAGTGT ATATGACCTC GCTCCATCA TTCTGTGAT GGGACCTGG 600
 CTCTTGCTC CATATTAGCC TTAACCGGC CCAGCCAAA TATCTCTG TGGCATTC 660
 GTTAACITCC CTAGGCAAT GTTCTATTGG GAACATTC 698

(2) INFORMATION FOR SEQ ID NO:915:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1570RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:915:

10 GATCCACAAC ACACACAGCT TCGGACTCT TTTTCTCAA GACAGTTCAC CAGTCCAACA 60
 CTTGCAAAAC CATCTGCTAA CGTTTCAAGC ATTGCGCAGC AGCAAAACCA GCCAACCGCT 120
 15 CTCTCTCAAT CTCATCTCA GCAACAACAA GGTTCACAAG CTCAGCAGCA GCTACTTCAA 180
 CAACAACAAG GTTTCACAAGC TCAGCAGCAG CTACTTCAAC AACAACAACA GCAACCACCA 240
 20 CCACCACCAC CACAACCACA GCAACAACA CAACAACCAC AACAACCACA ACAGCAGCAG 300
 CAGCCCCAAC CTCAACCGCA ACTACAACAA CAACAACAGC TTGGTTTACA GCTTCATCAG 360
 25 CCACAACCTG CGCAAGCGCA GCGCAACAA CCACAACCGC AGCAGCAGAC GCAGCAGCAG 420
 ACGCAGCAGC AGCAGCAGCA GCAGCAGCAG CAGCAGCAGC AGCAGACACA GCAGCAGACA 480
 30 CAACACCAAC CACAACCACA ATTGAACCA CAATCAGAGC AACCACAACC GGTTCACAG 540
 CAAGTCCAGT CTCACAACCC ACAGCAAGTC CAGTCTCAAC AACAACCACA GCTTCAGCAA 600
 35 CTTTCAGAGC CTGCCCAACA ACAATCGCAA CAACAACAGC AGCAGCAGCA GCAGTCTCAG 660
 CAGCAGAAGC TTCGCAAGT GCAGCTGC 688

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(2) INFORMATION FOR SEQ ID NO:916:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 714 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1570UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:916:

5 GATCTTGGG CCGCGGGGC CCTGGGCTA CGTCTGAGG CTGTATGGA ACCGCGAGTT 60
 CTTACAAACC ATGATCGTGA ACTCGACCT GGAGAGCGG CTGTTGGACT ACACCATTC 120
 10 GTGCTGATG GGTATCCATA TTGAGTACAA GCGGCATAAC CCTGAATTG TGGAGCCGGA 180
 GCGTTCAGC GCATACGATG TGCTGACGGT GCTGGGCTG GTCATGAGG TTGCGTGAT 240
 15 GGTGGTCTG GTGACCATC CGATCTGGG ACGTGTCTA CTGATGTTG TGATGAATG 300
 AAAGTTTCA TAGACTTCT AGAGCGGT CTTAATTCTA CCGGACTAA ACCAGGTGA 360
 20 GCGCGGAC GTGTTCTACC AGCATATCTT ACAGTTTGA TACTTGGGG GGTGCTACAC 420
 GGTTTAAAT TTGTTGCTC TATTCTCAGT CTGGGCTTT GTGTCTATC CGTTGGCAAT 480
 25 CAAAATGTG GCGACTTCA ACATCATCA CTTACAGG GAAGAAGTG AGTCCATCAC 540
 TGAATGAAAT CATTCACTA ACATGTCCAT CTATACATA AGATAGATAT AGCCAGAATC 600
 30 AATACCTGC CCATTAGTAA AGTACCATG TGTGACACA GCGAATCC GCGCAACACC 660
 GCGTCTGTG GACGAAGCA ACTTGAACG CAGCAGCAT CCGAGGTAG TCGT 714
 35

(2) INFORMATION FOR SEQ ID NO:917:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 658 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1571RP
 55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:917:

5	CCGAGGCGGT AGGCAACACC GTTGGATATC TGCACCTGGC AAAGGTCTTG ACCCGGCAGC	60
	AGAAGCTGCG GCGAACGGGT AGTCACGCA TACAAGTGGC CCGGGGGTTC GATTGCCAAG	120
10	TTCGAACCTT CCTCTGCCAG CGGCACATCC CGCAGCGGCT CGCCCTCAA CCCCCGCAAC	180
	CGCAACGGGA ACCGGGTGGA GCCAGCGTCC TGGCCAGGC GCGGCCCCA GTAGTAGAGC	240
15	CCGGGCTCTC CTGGCTGGG CGGGTACC GGGATCTGG GATCCCGG CAGCTCTTC	300
	TTCGCTTGA TCTCTTCAG CCGTCAAGC GTGTGTGCT CCACCCGCG GTGCGCGCT	360
20	AGAATCCAGC CTTGATCTG CGGCATTGA AGATACACCG TGCTGCTAC TCGATCCCG	420
	AGGACCACCG CCAGGCGCTG GAACACCGC ATCAGCTTCT GCATCTCTC CAGCTTGTC	480
25	GCATACTCTT GCTCCAGTTC GCGCGGGAT TTGTCACTCC ACTGGTAGTC CAGCTTGCTG	540
	CGCTTGGCTT TGTATGTGCC ATGTTTCAGC TGCTCTTGG ATCATCTGG GTCATCAAA	600
30	ACGCTGCCCC TTGGCAACG CCGTTCCTTC CATAGCGAGC GCTCGGCAC TGGCAGCC	658

(2) INFORMATION FOR SEQ ID NO:918:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 657 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

45	(ii) MOLECULE TYPE: DNA (genomic)
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	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1571UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:918:

55	GATCAGTGA TGGGATGAAA ACTCTGACAA ATGCACCGGG AATATATAAG GCATGGAGCT	60
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GCGGACTCGG CCAGACAGTG CGACCAGCGA AACAACAACA TCATCCAAAA TGCCGAGAAG 120
 5 ACCAGCTAGA TGCTACCGTT ACCAGAAGAA CAAGCCTTAC CCBAAGTCTA GGTACAACAG 180
 AGCTGTGCCA GACTCCAAGA TCAGAATCTA CGACTTGGGT AAGAAGAAGG CCACCGTTGA 240
 10 TGAGTTCCTT CTATGTGTGC ACCTAGTGTG CAACGAGTTG GAGCAGTTGT CCTCCGAGGC 300
 TTTGGAAGCC GCGGTATCT GTGCCAACAA GTACATCACC AAGATGACCG GTAGAGACTC 360
 15 GTTCCACTTG AGAGTCAGAG TGCACCAATT CCACGTCTTG AGAATCAACA AGATGTTGTG 420
 GTGTGCAGGT GCAGACAGAC TGCAGCAGGG TATGAGAGGT GCTGGGGTA AGCCTCAGCG 480
 20 TTTGGCTGCC CGTGTGACG TCGGCCAGAT CATCTTCTCC GTCAGAACCA AGGACAACAA 540
 CAAGGACATC GTTGTGAGG CTTTGAGAAG ACCAGATACA AGTTCCAGG TCAGCAGAG 600
 25 ATCATCATGT CCAAGAAGTG GGGTTTCACC AACTTGCACC GTGCCGAGTA CGTCAGA 657

(2) INFORMATION FOR SEQ ID NO:919:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1572RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:919:

GATCTATTAT TAGAGGTAAT ACATTAAAC TATTATCTAA ATTCTCTTC TTCTTATTTA 60
 TTCTTAACCT TATCTTATTA GGTAATTAG GTCAATGICA TGTTGAAGTA CCATTATTTT 120
 55 TAATAGGTCA AATTGTGACA TTTATTTAAT TIGCTTATTT CTTAATCTTA GTACCTATTA 180

TTCTATAAT TGAAATATT TTATTTTATT TACTAAATAA AAAATAATAA TTAAATAAAT 240
 5 AATAATAATA TTCATTAAAT ACITTAATAT TAATATTTAT ATATTATACT TCTTTATCAT 300
 TTAGGAGGGT ACCTCATATT GCTGACTAAC AATAGGGGGG TGAACCTAC GCACCTAAAT 360
 10 GATAAGAGTT TATCATTAAA TTATATACTA TATATTATAA GTAAATATC AAACCATATA 420
 TAAGGTATAT ATATTAGAA AGTTTGACTG AGTGGTTTAA AGTGTAAAT TTGAGCTATT 480
 15 ATAAATCTTT ATGATTTTCT AGGTTCGAAT CCTATAACTT TCGTATTAAA TAATTATTTA 540
 AAATAATTA AAATAGTTAA TAATAATGAG AACATGATGT TGGTTCAGAT TAGGCGCTAA 600
 20 CTAAGGGACA TTACACATGC CAATC 625

(2) INFORMATION FOR SEQ ID NO:920:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 677 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1572UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:920:

45 GATCCGTGTA TTTTATTATT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60
 TTATAAAAAA TAATTAGTGC ATTGTTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120
 50 ATCAACTAAT TGTTATATAT TTATTAAATA TTAATTTTCT TTAATTAAGA ATTAGGAACT 180
 TTATCTATTA GTCTGGGCTG TTTCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240
 55 ATATTTAATT TTAGATTAAAT AATATATTTCT GAGATTTAAT ATTTTAAATA AAATAAATAA 300

TTATTCCCTA AATAATATTA ATAACATATC CATATATATC TAATATTTAA ATAATCATAC 360
 5 TAACATATGT TTGGTAGAAA ACCAGCTATT TGCAATCAG ATTTGACTTT CTCTACTTAC 420
 CATTATTCAT CAGATAATAT TGCTACATTA ACCGTGTCAA TCGTTTTTAT ATTTTATTAT 480
 10 ATTTTAAATA TAATAAATAT ATATTTTAAAT CATTGATAA TAGTAAGATC ATCTGCTTTC 540
 GGGTTAATTA ATATTAACTA AATTTAATTT ATTTTAATTA ATTTTAACAT TGTTAAATAT 600
 15 TTATATTATT TTAAATATCA TTTTATTATT TAATATTATG CTAATATTAA TCACTTCTCTG 660
 ACCCATTTATA CAAAAGG 677

(2) INFORMATION FOR SEQ ID NO:921:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1573RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:921:

GATCCGTATG GAAATTATTT TTTTATTTGA ATTATCTTTC TCCAGAACAT CCAAGAAGAG 60
 45 TGTGAGAGTG GTGGGCAGAT ATGGCTTAAA CTCTCCTTCC AAAGATTAG AAATAGATTG 120
 GATAACAGAA ATGATTGTAA TTTGCAGTTT AATAAATGGG AAGAATCTTT TAATGACTTC 180
 50 AAATATTTTCG TCAACATATG GCTGATATG TTGCTTCACA ATTGATACCA TAACACCTAA 240
 TTGTTGAAAA TAAACTCAA GTATTGATGG AGGACAGCTA CGCATCATAT TAATCATTC 300
 55 TGGATAAATT TGCTTTAGGA AGGAGACGCA GCGGAGTCCC AATGTTTGA AGATGTGCAT 360

CACTGCTGT ATGACAGCAG TGTGATGAGA AGATAAAGAA GGATCCTTCA AAATTTTCAT 420
 5 TAGAGTATTG ATCAGGACGG TTGGATAATA TTCTTCATTG GAGGGTGACA TACCTTGCAT 480
 TAACAAAGCA ACATCTATGG ATGGGOCATT TTGTTGACG GATATAGCCG TGCTGGATGT 540
 10 TCTTTCAACT TCTCTATGTT TATAAGGGTC CAGAGCTCCC AGAATCCCTA TTAGTCTAAC 600
 TGTTTCCCTC CTTATGCTTT GGG 623

15 (2) INFORMATION FOR SEQ ID NO:922:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 20 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1573UP
 30

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:922:

GATCSGATAG GACAGCGAGT ACGAAGGCCC CTGTGCGGCT GCGAGCGGCT CGTTGCCAAT 60
 GTAAAAGTCG AGGTCTCTCG TCCCGCGCTT CCCAGCCAGG TTGTTGACCA TCAAAGAAGA 120
 40 TGACGTAAAG CCGGTGAAGC ACGTCGCGCA CGTCGTGPTG CCAAAGAATG CAGACCCGCC 180
 AGCGCCCATTA CCGCTCCCGC TCTGGGCCAT ACGCTCATA CTGCTACTCT TGGCGTCTT 240
 45 GGAAGGCTGC GCAGTCGCAA TTGCGGTTG GAACACCCAT GAGGGGAGT CGTTACCTGC 300
 AAATCCCAAT TTGGTCAATC CTGTACCAAT GTCCATGACA ACAGCAGGAT TATTGAGGTA 360
 50 TGACATGCTG TATTCTGGT CTCAAATGCT TCTGGTAGAC TTGTGTGAGC CTTTGCTTC 420
 GGATGCGTTG TCACCTACTG CCTTAAGAGT GCTGCGAGTG GAAAAGGGGT CTAATGCGCC 480
 55

TTTGTGTTTA GGTGATCACC ATCAACCAACC ACGGTACACC TGACGAAAGG CAACGCGGTG 540
 5 GCTTGTAAG CCAGGAGAGC CCTCGTAGGT ATTCCGGGGA GCCAATTGGT GGCCCTCTGC 500
 GTTCTOGAG CGCTCTGCT CCACTGCCC TCTTGACTCG TTTATGAACC TTGAACACG 660
 10 GCATATAGCG ACACGGACTT TCTGCAGGC TGTAGAGTAG CCCACATCCG GCGAA 715

(2) INFORMATION FOR SEQ ID NO:923:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 602 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1574RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:923:

GATCCGAAG CTGGTCTGTT TCGAATCCG GATATTTTGA GGAAGTACGT TTGTTCCAAC 60
 35 GAGGTGCTT CCATGCATCT TGGGGGGTGG TTGAGGCAAC ATTTTCAGTC TCACATTOCC 120
 TGAACAGCTT TGCTATCTAC TAGGAGTTAC TGAAGCTTTT AATGTCTGTT AATAAATCTT 180
 40 TTGAGTTAGA TAATTCGCTG CGCTACAGTC TCATGGGT TTCTATGGCC AACCATCTG 240
 TAACTCTAAT TGAAAGGGAG AAGATCTTAT ACAGGAAATT AACAAAGGAG TCTGTGGCAC 300
 45 TAGTTTGGG TGGGGGGTGC GGACATGAGC CTGGGCACAG CGGTATGTT GGGGAGGCA 360
 TGTTAACGGC GGCTGTGCA GGAGACATTT TTGGTGGCC GTGACGGCT CAGATTTTGA 420
 50 CTGCAATAAG GATTGCTACA AAGCAAGCAG CTGGAGCATT GCTGATCTG AAGAACTATA 480
 CTGGCGAGT TCTTCACTTT GGCCTGGCAA CTGAGCGTGC TGGTCTATG GGCATTGATT 540
 55

GGCGGGTGGT TATGTGTGGT GATGAGGTAC TGTGGTCTT ACCAAGGGTG CAGGAATTGG 600

5 AC 602

(2) INFORMATION FOR SEQ ID NO:924:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1574UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:924:

30 GATCAAAAGC GTGAAGCTGG AGCGTAATGA GGAGCAGCCA GTTGTTTGA TGGACTGGGA 60

CCAGCTGTAC GACGTGTCTT CGAACATAAT GGAAGAATTT ACAAAGGAAA TGGACGAAAT 120

35 AGTGGCAGAG CTCACCAAGT CGTTCAGGT ATGTAGCAG ATGAACAGC AGGGCGGGCG 180

GGTTACTAAC GCGATGGGIG CAGAAGCAAT TGCTTTGGCA GGAGGCGGGG TTACCGTGG 240

40 ACTGGCAGAG AGGGCCACCC CGGTGGGGG CTGGGAAAG CTGGATGAAG AGCAAAGAGA 300

CGACCTGGA ACAGAAGCGG CGGAGCTCA ATGCATGGC GGCATCATC AAGAGCAGC 360

45 TCGAAATTT GAGCGAGGA TAGTCCCGG CGGCATCGT CATGCAATGC CTGCTCAAC 420

ATTACATGA TGGGTATTTC TGCTATGTA CAAACATAAT TTACGGGAT TTAGCTTTCT 480

50 TCAAGGCTT GTCTCGGIG TCTGCGCCAT CGGCGCTTC AGTTTCACTC TCCGAGACAC 540

CGGGTCTGA GTCAAACTCC TCCGGAGGT CATGCTCTC CGACTCGGC TGGAAATCT 600

55 CGTCACAGA CTCATCGTCC TCTGCAGCAG AACCATGTA AGTCTCAT CTGCTGTCA 660

GAACCAAGGG CTGTTTGTAG GCGCTGCTGA ATCTCTTTCT CTTCGTTTTT GACGCGAAG 720

5 TT 722

(2) INFORMATION FOR SEQ ID NO:925:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 589 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1575RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:925:

30 GATCCAGTAA ACTTCAGCTC ATCGTGAGCA ACCGACGTCA CCCCACCACG CGCAGGCGAT 60
 ACTCCGGTGG AAATCACTG AGTATATGCA GACTCTTUG AACCATGTG AGCAACCGAC 120
 35 TCACCTCAC CACGGGCAGG TGAAAGTCG GTGGATATCA CCTGAGTACG TGCAGGCGAA 180
 CTGCTGCGG AAATCACATC ACTATCAGCA GGTGAACTC CAGTGGAAAT CGCTGAGTA 240
 40 CGTCAGTAG GCTTCGACTC ATTGTGGGCG ACGATGTCA CCTCACCOCG CGCAGGCGAA 300
 CTGCTGCTG AAATGCAATC ACCACGGGCA GGCGAGACTC CAGTGGAAAT CACTGAGTA 360
 45 CGTCCAGGCG AACTGCTGC GGAAATGCA TCACCACGG CAGGCGAGAC TCCGGTGGAT 420
 ATCAGCTGAG TCGGTGAGT AGGCTCGAC TCATTGTGGG CGACCGATGT CACCTCACC 480
 50 CGGCAGGCG AGCTTCAGT GGAAATCACA TCACCACGG CAGGCGAACT GCTGTGGAA 540
 ATCAGCTGAG TACTTCAGT AGGCCACGAC CCANGTGGG CAACTGACT 589

55 (2) INFORMATION FOR SEQ ID NO:926:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 684 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1575UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:926:

GATCAATAT CAACTAAGGC ACTAGTTTTT GGTGTAGCTG CTCAAGCATC ACOGGATGCT 60
 CAGAAGCGTG TAATTAACCT ACAATCTCGG ACTTCACCAC CCAATCTGA AACACATTUG 120
 CATATACGGC ACAAGGCTTC TAGCGTGTAT CAGTCGGAAA CAACAKATAA TATAACTAAA 180
 GATACCGGGA TGTTTTCTGC AGTGAAGTCA GCGTTTCCCC ATATACAACA GAAAACCATTA 240
 TCAGCAGGCT CTGAACCTGA TGACACTGAC TTTCAGAGAA CACAACTAC CAGCACAGGC 300
 CCACTTCCAA CTCAAGCGA ATATGACTCT GCGCTGTGA CAGTTCATGG AGGACTTGAT 360
 ATTTCTOCOA GAACACCTTC CTCTAGCTCC ACAGATTTCG ACGAGTATCC AACTGGTACA 420
 ATAACAGAGT CACACAGAGG GCGTTATAAC GTTAGCCAAC TTCCCGAAAA TAATGGGAC 480
 TCAGCTGCCA CTGTGTGAT TAAGAGAAAC AGTTCTGTTC TCAGCTGGC TGAAGGGTG 540
 ACCACCACCC CAATGGTTAA TCRAGCTACA GTACTCAGG CCTGGCCGGG AGGGTTAAA 600
 TTAACCGAGA AACAGCATAG TCCGGCATCA TCTTCAGATA TTTCACAGC CAATAAACA 660
 CATTCGAATT CTATTGATCT AAAC 684

(2) INFORMATION FOR SEQ ID NO:927:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 732 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1576RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:927:

GATCTTGTG AGAACA	CTCA ACATGGGGT	AATG	CAGAG CCCCCGGTGA	CCATA	CGGAT	60
TTTCTTGTA	CGATTGGTCA	CATAGCTGAA	CGTCTTACA	GGACCTTTGA	ATTCCACAGT	120
TTGGGCTGGC	TGTAGGCGAG	CAAACCATTT	GGATACTTA	CGTGGACAT	AAGATTGAC	180
AATGATATCG	AAATGGCCCT	CGGCAATTT	GTTGGAGATA	GGGTGTAGT	AACGCATTC	240
TTCTACACCA	TCCAGCATCA	CCTTGGCAGC	TAAATGAAG	CCAGTAGGTA	TATCAAGAGT	300
TTCCACGCTT	GAAAGGAGCT	TGAATCTGTA	TATGCGAGCA	TTTTTGCTTA	GAACGATCG	360
TTCTTCCAAT	TCTAATGGCG	TCCACTCATT	TGAAGAATT	GAGTCTGTC	TTCTGTATGC	420
TAGTAGCAGG	CGTGACCTA	CAAACATTGC	CAAGCTAGA	ATGCCTAGAA	GGTACCATGC	480
GTTCGCCGCT	GACCAGGCGA	TAACAAGAAC	GCCCAATGTA	AAGATGCCGC	TGGGGATGAA	540
GATCCCATGA	ATGGGATCAT	CCAATATCTC	CATACCTCTG	CGTTGGGTCA	TACTAATATT	600
TTGAAAGCTC	GTCTAGCTA	TGTCTAGTA	AGGATGAGAC	CGGTAATAT	ATGCTTCTTC	660
CTAGTTCTAT	AAGCAAGGAC	TCTTTGCAAC	TGGTGAAGTA	TGTCTAACG	GTCATCATGC	720
ATCTGCCGAA	AA					732

(2) INFORMATION FOR SEQ ID NO:928:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1576UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:928:

GATCAGGCGG GACGGGTACT TGCAGGAAGG CCTCAGGAAA CCCAAGGGGG GCGAGGAGGG	60
CTTCTOGAAG TTTTTCAGG AGACGGGCTC GGGCAAGTTC GTGCGGGGG CCGTGTACGT	120
GGACTTGGAG CCGAAGTGA TCGACGAGGT GGGCAAGGG CCGTACCGGG AGTGTGTTCA	180
CCCGGAGCAG TTGATCAGCG GAAAGGAGGA GCGGGGGAAC AACTACGGGC GTGGGCACTA	240
CAAGGTGGGG CCGAGCTCT TGGACGATAT CCTAGACGGC ATCCGCAAGA TCTGGGACCA	300
GTGGGAGGGG CTCCAGGGCT TCTCTTTAC GCACTGGCTT GCGGTGGTA CCGGCTCGGG	360
CTTGGGGTGG CTGCTTTTGG AGCAGCTTTC TATGACTAC GGCAAGAAAT CGAAATTGGA	420
GTTTGGCGTG TATCCGGGC CACAGGTGTC CACCTGGTC GTGGAGCCAT ACAACACCGT	480
GTTGACCACC CACACCACAT TGGAGCATGC CGACTGTACG TTCAATGGTGG ACAACGAGGC	540
CATCTACGAG ATGTGCAAGA AGAACTTGA CATCTGAGA CCTAGCTTTG CGAACTTGAA	600
CAACTTGATC GCGCAGGTGG TCTCTGGGT GACCGGTGA TTGGGTTTGG ACGGCTCTTT	660
GAACGTGGAC TTGAACGAGT CCAGACCAAC TTGGTGCCAT ATCCAGAAAT CCACTTCCCA	720
TTGG	724

(2) INFORMATION FOR SEQ ID NO:929:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 686 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1577RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:929:

20	GATCCGTTTA GAGAAAAACG GTAGCCCGGT GAAATACCA TTTGAGTGG CAGAGCGGCG	60
	CGAGCGGTCC GAAAGGTAGA TTTGTCCAG TGGGAAGTTC ACTCGTTTC TTATTTOGAC	120
25	AATCGACGTC TTCAGCTCC CGTCTTCCAA CCGGGTGAGC TTGTTGAATA AAGCTGTAAA	180
	AACTGCTGA AGAGCAGTCA GCACGAGATA GAAGACAGC ATCAGGATAG AGACGTAGCT	240
30	GACGAAGCCA GTGAGAACT TTTCATTAC CTTCACAGC GCATAGGCTG CAGGAGTGGT	300
	AATCATGGAG GAGATCATAA ACACTTTTAG CTGGTCCGTT AGCCATAGCT TGACCGTGA	360
35	CTGTGTGAAC CGAATTTTT CCGAGACAC AAAGTTGTAG TAATACTCC CAAACAACCC	420
	CTGCCACCAG TTCAGCTGTA GGTAGAGGAT CAAAAGTAC AGCGACTGG AGATGGTGA	480
40	TACTGGCACC AGCATGGGG GCATGGGCTG AACTACGCG ACTCTAGGT TCCACATCG	540
	TGGCAGCCAG TGTACTTAA TCATTACCAG ATTTAGTCC AGGACACCA GATCTTAAAC	600
45	CATACGGTAG CGTACTTGG CCGCTGGTA CGCTCGGTC TTTGCATTG TTTCTTTATC	660
	AATAACGCCC TCCAGTTGC TGGTA	686

(2) INFORMATION FOR SEQ ID NO:930:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1577UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:930:

```

5      GATCTTCGAC ACTATGTAGG COGCGTAGAT GAGCAACATT ACCACGCAGT CCAGGAACGA      60
      CACAGCGTTC ATCAGGCATA CGTAGCGAT AATGCAGACG GCCAGCATCG CAAACAGTAG      120
20     GTCCACGATG ATUGAATGGC GCTCCGCGGC GCTAAGATTT ACCCAGGCAG ACCTCATCAC      180
      CATAAATATC GCGCCCTGTA CCACACAGAT GATAACGCGC CAGGCGCCCA GCACTCACC      240
25     CACAGACAAG GCGCGGCAT TGTTCGCGGC GTTCCAGGAC ATCAGACTGG AGAACAAGTC      300
      GCGGACGAA TTGCACCATG CCAGTAGGAT GCTGCCAGA ATGCCCTTGT GCGGCCGGTT      360
30     CGTTGGCTC GTCAAGGTCA CCACTATGGG ACATAAATAA TCAGAAGCGG AAACGCCAG      420
      CAACACAAA CACACCTCA GATGTAGAAC CGTCAGCACC ACGAACCAG GGATAGCTTG      480
35     TTGCTCTGT ATAGATACAC TGGATGTGTG ATCCGTGCC ATGTACTTGG TGCATGGTCC      540
      ATCTTGCA CTTGCCCTTC CAGGTACTTG GTAATAGTAG TGTAGCCAC CGCAACTG      600
40     GTCAAAAAGC ACACCTRAAA CCTCAATATG TAAGGCGTC GAATGGTAGA TCGTTATTT      660
      AAAATGCAGT GCTTGAGATG AACAGATAGA CTGGTGCC      699
45

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(2) INFORMATION FOR SEQ ID NO:931:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1578RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:931:

GATCATCTTG CTGGAGTTG AAGTCATCTT GCGATTCCTT CATGCATAGG AGTTGGTTAG	60
CACCAAACAT AGGATTCATT CTCAGTCCA CCTCGGTTAA CGTTCTGTC CTATACTTTA	120
AGTAGTCGAT GAACTGTCTT GTAGAGTGG CCAGTTTATT AAAATTAAAC CTGTGGGAAC	180
TATCCCGGTC TAGTCGGATG AGATTATCG TAATCTTATT CAGGACACC CAGTCTCGT	240
TCGATAGAG CTGGCTACC GCAGCTCAT TCCGCAACTC CTTATGATA TCTATTCCAA	300
GGATCTGTC CAGGAGAATG CTACCATTTT TATGTTCTG AATGAACITG CCTCTACATC	360
GAGCAAAGCA TAGGTGTTTA ATGTGGATAT CCGCTAGATC GAACCCAGAC TCATGGCGA	420
CTTCTCTGT ATCTAGCCCA AAACCATGCA TTAGCAGCTT CAAGACAATC GGCACAAGCT	480
GCGATGTTC CCATGTCTG CAAGGAAGCT TTACGACATA TGGGATTGG TCATCGCGC	540
CATGTTCAA GTTTTCAGC ATTAGCAGC AGCTAGTGA TGGGGTGAAC AGGATCCTAG	600
TAAGGACCG GACGAATCA ACCTTCTGT CTACAATATC ATCACTGGAG AAAAACCCTCA	660
GAAGTTCCGC GG	672

(2) INFORMATION FOR SEQ ID NO:932:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 737 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1578UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:932:

5
 10 GATCTTTTTC TGGTTCCTTTT CCTTTAAACA GAATAATAAT TGAACAGGTA CCGTATTATC 60
 GCGCATGCT AAGTGCACCT TTGACOGAGA CACTTTAGTG ATATTTATTT TGGTAGTGIG 120
 15 CTGTATAAG TGGGOCACGA CTTTCTTGCC ATTAATCTCG TCCITGSGGA AGCCGTCTTG 180
 GTAGCATCTT AACGCACTCA TTAATGCCAA TGATCGCGGG TTGATGCGCT CACGCCATC 240
 20 CGAAACAACA CAGACACATA TCGTTTCCA GGCATCGGGG CCCCAAATAT CAGAACGCTT 300
 CCGTCGAGTG AAATATTTTA TGTGTCCAT GACGCTTTT AATGTCCGTG CCAATAATAT 360
 25 GTCGTTTTCG TTGTACATCG TTATCAGGAT CATGATTTCG GTCTACGGG GTACAGCGTA 420
 TTTAATGTG CTCACGGTAA AGTTCCTTAG CTGAAACTCA GCTGGCTCAC AGGTGACAGC 480
 30 CTGATATGC ATGAATTTGT ATTGTTTGT GAAGTAATCT TCTCTCATGC CAGTGGGTA 540
 CTGGACACT AGCTGTTTAC TGACTGGACA ATCAAAGATA AAGTTTCTC GATATACTT 600
 35 GAACTTTGT AATACAATGC GATTTTLAGG CTGTTTCGAC TCGGTAAAC CACTCAGAAG 660
 CCGTCTGAG CTGAGATGC TCGAGTCGCC AGAACCTTG GAACCGGAGT ATGCGGATTA 720
 40 GCGCTACGC GAGAGAT 737

(2) INFORMATION FOR SEQ ID NO:933:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 663 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1579RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:933:

10 GATCGAAATA CCACTGATCG ACCGGGGTGC CTCGCTTTGC AGCTGCTCCG AGAGCCGCTC 60
 TCGAGATAC CGCGCAGAGC ATGCGTTTTC CAACACCATC TTCTCGTACC GTTCGGGAAG 120
 15 TGACCTACT ATACTTATGA TAATGACCTT CTGTGCTTC AGAGTCCCT CTGTTTCTT 180
 CTCAGGTAA AGGTGGATT CTGGCCAGG CTCGTAGTAG CCACGGACCG CAGACCAAT 240
 20 CCGGTGTC CACGGCATGG GATGGAAGTA CTCACCGGA GGTGGCCCG GCAGAAGCAC 300
 CGAGTTGTC ACCCGACCA CGTACTCGA CTGGTCTCC AGCGACACA CCTCGAGCG 360
 25 ATACTCTTC AGCGCAACT GGCAGTTCTG TGACCGGTG TTGCAACGC TCAGCTGCC 420
 CTGACCAGC CCGCAGACC CGGCATGTC TCCATGTCC GGCAGTACT CCGTGTCCA 480
 30 GCACCAGGAG TCAATTCCCG GCGTACCGC CTCAGCGCC TCTGTCTCA GGTATGCAC 540
 CTGCTTCCA GTAGCTGAT GGTACTCGT GCTGTGGTC ATCAGCAGC CGTCTCGGG 600
 35 GGTGTCCAG AACGCATCC ATCCACCAC GCTTGTAGA AACGAGTCC TGGGGCCCT 660
 GCA 663

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(2) INFORMATION FOR SEQ ID NO:934:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 720 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1579UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:934:

5 GATCGCACGG ACCGCGAGAC GAGTTCTCTT GGTCTGTGCG ATTGGCGATG GTAGGCCGCC 60
 CTGTTCACAG TGACCTGGGG ACAGCAGACT TCGGTCAAA ATCAACCTTA GCTCAGCTG 120
 10 TGATGACATC AGCCAAAACG GCGTCCGTA AACACCTTC GAGGCGTTG TGGACTTGAG 180
 GATCAGTTTA CCGTCTTAC CTTCCCGTG CGCTTTTGG AAGGACTGC GGAGGTCTC 240
 15 AATATCTTGT GAGAGCTGTT CCAGCGAGAT ACCCTCTCT GGAAGTAGG AAACCTGTGC 300
 GCGCACGGCC AAGGCAGCAT GCGTTGCCAG ATAGCTGAG TTACCACCT GGACATGAC 360
 20 GACAAAGACC CCGCTCTTG TGGAGGCTG CACTGCTTC ACAACATCAC AGTACTCCAT 420
 TAGGCATTG AGAGCTGTGT CTGAACGAG CGAATACTCA CTGCCCCGA CGTTATTGGA 480
 25 AAGTGTGCT GGAATGAGTA CCATTGGTAT TCTGAAAGCT GGGTAGTTCT CACGGGCCCC 540
 CTCCAATTGA TGCAAGGAGA CGAAGGCTG AACCCACCA CAATAACCA GCGTCAAC 600
 30 TTGTACTTTT GGAAGTAGTA GGCAATCATG CCAATGTCTG CATCTCTGG GACAGTTCTG 660
 TTGGTTCCCA ACTCGGAACA CCGGAGATT GCCAGCCAAG CATATCTTTC CAGTTCAACG 720
 35

(2) INFORMATION FOR SEQ ID NO:935:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

 (ii) MOLECULE TYPE: DNA (genomic)

 50 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1580RP

 55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:935:

5 GATCCGIGTC GACAAGTTGG TCACGTATAT ATGGGCGGTG TTGAGCGCG TCTGCGTGT 60
 CCGCCGAAC CAGCAGCGCT GCCATCTOGA AGACATCATG CTCTTGCGTG TGTACTGCGG 120
 10 CGAGGCGCGG GGGCACCCGC TCTTGCTCAT GGCGATCGTT CAGGCGGTGG CGGCACGCTA 180
 CCGGCTGCAG ACGCTCTCTT GCGAGCAGGT ATTGATCATC ATTGACCGCA AGTTGCGCGG 240
 15 CGGACAGTCA TACTTGATGA TCCGCTGGG AGGGAACGCA AAGCGCGCA TCTTCAAGCG 300
 GCGGCGTTG CTGACACTA TGCGGCACAC AATACCCAAC ATTGCGGACC CGCGGAGCCT 360
 20 GCGCTGGCC CGTTCTCTCA CTCCGCTCAC GAAGCGCGG GGTCTGAGA AAATCTTCAA 420
 AGACTGGTCC ATCTACTGGG ACAAATCCAT ATGGCGGACG ATCCCTGATC ACTGGCCCAA 480
 25 TGGCATCTG CGCTACCTCC CGCACTCTG CAGCGCGATG GAGGAATCCA TCTTTGAGTA 540
 TTTCATGTC TATTGGAAAA CGCAACAGC AAACCTCTCC ACGAACAACA TTTCCACAC 600
 30 CGTTCTCTC AAGCAATTG AAACGATCTT GGTCAAGAGT ATCCCGCGCA CGCATCCACT 660
 TTGTGATTG CCGGAGCAG CTCATGGACT CCATTATOGA GATGTCCTTC GCGAGTCC 718

(2) INFORMATION FOR SEQ ID NO:936:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1580UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:936:

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5      GATCCTTTTC ACCAACAGCT GTCTGGGCGA GCTGGGGGCT GGGATGAACT ACAACGAGGC      60
      AGTGAAAGCG CTGACGAACC TGGCGCTGGA CAGCTTTTACA CTGCGGGGGG ACGGTGGGGT      120
10     TTCGCTGAA CAAGGTGTAC TCTGTGCGCG TAGAAGACCG TGCTCAGATG GAGCTGCTGA      180
      AGGGGTACCT GCAGCAGTTG CGGCAGGAGC TGGCCACGGG GCTGCTGGAC CGTGCTATG      240
15     GGGCGGAAAA GGCACAGCCC TCGAAGTTCT GCGTGGGCTT CACAAGGGGC AAGTTTATGA      300
      ACAAGGGGCT GTAAGGGGAA ATAGGTACGT AGCTGGCGGC GCCAGGAAGT ATTTACAAAG      360
20     TTGGCTGTAT CGCTACGAGG TTTTGGTGGC GTGTGCTTTG TTGGAGCGCA CGAGGAGTTC      420
      AACGGCGGAA GCTGGAGCT GTTCCGGTTC TTTCAGATC GCGTTCAGT CAATGCTGAG      480
25     GTCGCTGTTT TTGGCGGGA AGCCTTGGAT CGCGGCTGC AGGTCTGTCA GCGCTGGAG      540
      GACAGCTCA TAGTCTGCAT CTCTTTTAC GCGCTTTTG TATGTTTGA AGGACTGAAC      600
30     GATGCTTTTG ATACCGGGCT CGACTCTGCT GATCATCTCG ATGGGCTGGC GCAACAAC TG      660
      ATCGGGGTG CTGTTGGCGT CCGTCCCTA ATCATCTGCT GGATT      705

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(2) INFORMATION FOR SEQ ID NO:937:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 665 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1581RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:937:

GACCTTAATT TAAAATTTTA ATTAACCTATT TATAATTTAG AAATATATAA TCTAGAGATA 60
 5 TATAATTTTA AAATCATAGG TAAAAATACT TAAGATAGTA AGAATAAAAT TAGTAAAATA 120
 AATAGAAAAC CATAAGTTAA TTGATTGATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180
 10 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTAA TTTTAAATAT 300
 15 AAATATACCA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 20 TTTCATAATA TTTATTTTAA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480
 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 25 TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTCTAAAT 600
 TATTATTAAT TAGTAAATTA TATTATTTA TTTTATTAC ATAATTTTTG ATAATAATAT 660
 30 ATCAT 665

(2) INFORMATION FOR SEQ ID NO:938:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1581UP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:938:
 55 GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60

CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATCAT TTAATACTOC TCTAATTCAA 180

5 TCTTAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240

GTAAACATA TGTTTTAGGG ACATATACTT TCAGTTCAAA ACTGAATATC TACATAATTAT 300

10 ATCATTAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360

GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAATTTAT CTTAACTAAT AAAAATAATT 420

15 AATTAAATAA ATAAATAATT AATTAAATTT AAAAAGTTTA AAAAAAGAAA TAAATAATAT 480

GTTATATTTA AATAGATCAA AATTCAACA ATTCCATTT CATTTAGTAC TACCATCACC 540

20 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACCTTAG CTTTACTAT 600

ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660

25 AATAACTTTA TGATTTAGAG ATATTGTAGC TGAAGTACTT TATTTAGGTG ATCATACTTT 720

AACTGTAAGA AA 732

30

(2) INFORMATION FOR SEQ ID NO:939:

35 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 694 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1582RF

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:939:

GATCTCAACA CGTGGTTGG AGAAGTGTGC AACACAGAG TAGGTAGTAC CCAAATCAAT 60

55

ACCGACTGAT TTAGACATGA TCACTGATTA GAAAACGAAA TCTCTGGTTT TCGGATAAACC 120
 5 GGGAGAAATA CCAATGGTGA TAACCGTAGG TAAGGCCAGA GGTACAAAGC TACTCCAATC 180
 TGAAGCTACA CACGCCCAAC CCTTTTATAC AATTTCAATT TTTTCTCTCC CAAACGAACA 240
 10 TGGCAGATAG TAAGAGTCIT CGAGCCCAAT GCCTGTTCGG TTTTTTTTTG TTCTGGAAAA 300
 TTCTACCATA ACGTATGTGG CCGTGA AAAA CTGATCAAAC GGGTCTOGAA GATCTTAGAA 360
 15 TAGAGGCTCC GACAGAAAGG GGGAGGCCGA TTCAAAAAAG ACCGCATGAG CCTCACTCGT 420
 GCTTGGAGGC GGGAGAGGCC ATAGGCTTCT TTCCAGGCGC CACCGACGGT TTCTGGAAG 480
 20 GAGCGAAAAC AGACAATGAA CCGAGGCGGT TGATCTGCAT CTGGGACTTG GGTAGGCCCC 540
 GTTTCACCTG AGCGGGAATG CGTGGATGCG AAACATACCC GTCCGCACGC ACCTCCCACT 600
 25 TCCGTACCAC CCGACGCATG TTGGCCGATT TTGTAGCGC GCCTTGATGA AAACCGAGTA 660
 TAGAGCCAGC ACAATCCAG AGCGCGCGCG ACAA 694

(2) INFORMATION FOR SEQ ID NO:940:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1582UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:940:

GATCTTGTTT TCCGCATCCA GATACTGGTC GAAGCGGAG TTCATCTGCT CTACAATGG 60
 55 CTTCACGAG TGGTGTAT CTATCGGTC CCGAAGCCC GCGTGTCCA CCACGTCAA 120

CTTCACACC ACGCCGTCTT CCTCGATCTC CGTCGTGACG GTCTCAATCT TCACCTTGTT 180
 5 CTGCGCGTCC TTGGCCCGCG ACTCGTGGCC GTCTCACCG TCTCAAGCT TCAACGGTT 240
 GAACTGCTCC GCGGTGTGCT CCTTGGCGGT GTATAGCTCC TTGTGAACA ACGTGTGAT 300
 10 CAAGGTGAC TTCCCAACC CCTTGGCGCC CAGCAGAGC AAATTGAGGT TGAACCGCG 360
 CCGATGAC TTGGATGCC ACTGCTTGG AAGTTTGG AACCACGT ACCCGAGAT 420
 15 CTTCGGTGG ATGATCGCA GGTCTGGCTG GTCTGGCAG ACCTGGCCG CCGCAGCTC 480
 GCCACCACT GCGGTGCCA CATTCTCTT GTGTCCGA AGGTCCAAC CCATCTCTC 540
 20 CTCCTCACG TTGATGTCG AGCTGTGTC CTGCGGCTC GCGTCCCGT TGTCAATTAG 600
 TGGCCCCCG TGCTGGTGT CAGGCTCC GCGTGTGG CACTGTTGT GTTGGCGAA 660
 25 TCTCTGCG AGCTGTAGG TAACATGCTT GTCTGATT GGTAGT 707

(2) INFORMATION FOR SEQ ID NO:941:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 717 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1583RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:941:

50 GATCAATTAC CTTGGGCGCA ACCATATTG GATGAATATT TGCAATTGTT CCGATAGGG 60
 TTCCCTCATC GTGTATGTTA TAGACCTCA CGTCTTCAAT AAAAGGGCAT GTGATGACTT 120
 55 TCTTCTGTC GCGAGAGAAG GTCAACAAA TTACAGATTG TTCTGTACG GCCAAACTT 180

TATAAACCCCT GAAGTTGTTT AACACGTCAT ATATGAATAC CTTACGATCG CTGGAAGGGT 240
 5 CAGTGGATGC ACTGGCCAAA TACCGACCAT CTGGTGAGAA TTGGAGGTAC CAGATTTCAT 300
 CTTTATTTTC CGAAAGAGTC TTCACATGAC TGAAATTGAA CATGCACATA GAGCCAACGT 360
 10 TATCTTGAAG CAAGTTATAA GTGGTTTCT CTCCAGAAG GTTCTCTTCG TGGTTGTGAG 420
 GATCGTCGCT GAAGCTTAAC AGGTGCTGG ACCGCTGGAA CTGTATAGCC TGTTTTAAAC 480
 15 ACGTAATGAG CCGCCCCGT GGAACCAAAT CATTOGGGT GATATATTGT GAAATCTGAT 540
 CAAGGGCCAA TTGGCGGAG GCTGCCAGAG ACGCTCCCA TATTTTGTGTT GCTCTGCGG 600
 20 ATTCCGCAGG ACACGTCAA ATAGTGTCA CTGCAGAAGA GCTGTGTCGG GATCATAGC 660
 CCACTCTCC TCGGCTCTT CCACCATAGA TATGGTCTGT ACAGCCACAG CGAGTCC 717

(2) INFORMATION FOR SEQ ID NO:942:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1583UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:942:

GATGACTGG AAGTACACGT CCAGGACCG GTCAAGGCC ATGTCTGGA CGGACTGCTC 60
 50 GAAGGTCCTC ACGAGTTCT TGGGATGCG GAGCATTTGT GTCCGCTCTG GGGCGGGGGA 120
 CGCTGCGGAG GGCTACCGA ATTTGCTTGT GGTGTGCTC ACGTGAACCT TGGCCGCTG 180
 55 GCGCGCGCGG GCGCGCTCG CCGGAATGG CTGCCCCCG CTGGCAGGC GTTCTTGCAA 240

TCACATGATT CATGATTCCG CTTTGGGGG GGATCACTGC GCAGCCGTTT TTGCTGCTTT 300
 5 TAGCCTCCCT GACACCTCG GCTGGGTCG GAGCAGGTC CCGCCGGCT GTCCGCTGG 360
 TGCTGTACG TGTGGGGTGA CCCCATTTC TGGGACAGCG GCGAGCATG ACCAGAGCT 420
 10 CCGAGGGTCC GCGGTGAGC ACAGCCCCCT AAAGGAGTTT CTTTATTTC ACCGGCCCC 480
 TCAAACACTA TATATGACA AAGGCAGGAT GGAAGGTAGG CTAAAGCAAG AAAAGACCTC 540
 15 GACCAACGGT ATCGAAGTCT AAAATCTTAG CAGGTACCG GATGCTTTC GAAGATTTC 600
 ACAAGGGCA AGCGGGAAA GTGAGGAGG CAGTGGACA AATATGTAAG GATTTCAGG 660
 20 TGACGAGGA CAACTCCG CAGTTGACG CGTACTTCAT CGAATGTTG GAACAG 716

(2) INFORMATION FOR SEQ ID NO:943:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 677 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1584RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:943:

GATCCAAAAA GCCTCCGGG CGCGGCACA TTATCACAC CCGTGTGCT TGACGGCTC 60
 45 GACAATACAT CCTATGACAT CGTAATCC TOCTATGTTG TTCCGACCG GGCCAAAGT 120
 GCCAGGTCT CGAGGCTTC GCGCGGAGC AAGAGTTCT CCCCCCTGA AGAGGAGGAG 180
 50 AAGCATTTA AATGCCAAGA ATGCACCAAG GCCTTCGCC GCAGCGAGCA CTGAAGGC 240
 55 CATATAGCT CTGTGCACTC ATCGATAGG CCGTTTCGT GCACCTATG TGATAAGAAG 300

TTCAGCGGCA GCGACAATCT GTCCAGCAT CTCAAGACAC ATGCAAGCA TGGCGATATA 360
 5 AAAGACAGGC CACCAACCAC CAAGAAAGGC TGACTTTCAC ACATCTATGC GAATACCCGA 420
 TGTTCATTA AGAGATACAT ACAGCGCATA CAAGCTGACA CAACGTCCCG TACGCCAACA 480
 10 GAGGAGATGA TAAATACTAC ATACTCAATA TATCAATACC TCTTACTTTT GGTAAATCATA 540
 TATACTGTT TCTTTTGGCA CTGTTCTGGT AACGTGTGCA TAGGTTTCCC TGTGCTGCT 600
 15 AGCTGGCCAG GATTCCCTTA ATGATGAGG TCCGGCGGCG AACCAGACAA AAGTTGGGCA 660
 GCTTAAGATA GTTGAC 677

(2) INFORMATION FOR SEQ ID NO:944:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1584UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:944:

GATCCCATTT TGTCCTCTTC GGCTACCGGG ACCGCCAGTA GAGCATCCAG AATAGATGTT 60
 45 CACCAGTAGG CTTGCCAAGT GCTCATTAGT TGCGTCACA TGGCTGCCCG TGTACATGAC 120
 AGTGACACAC CATGTTGTAT TCATATCGAA GGTGGAAGGC CCTCGATGC GCCCAACGCT 180
 50 CAATCCAATG GACGGAGTTG CATCGGACTG GCTTTTGGTG TGAAGCTTG GAAAGACTAA 240
 TATTOGGAAC CTGAATCATG GGGACGTGGT GATCTTCCGC TCACCCATGA ACCCAAGAA 300
 55 AGTATACTGC AAGCGCATCC AGGTAAGCA GTATGATACG GTGCGCACGC GGTATCCTTA 360

TCCGAGAGT ACCTGCGAAG TGCCAAAGTC GCACATATGG GTGAGGGGG ACAATGTCAC 420
 5 GCAGTCGGTG GACTOGAATC ACTTCGGGOC GATTTCGAGG GGGCTTGTGG TAAGCGAGGT 480
 GACACGGGTC ATATGCCCCC CATOGAGATG GGGGCGAGAC CTGCAAGAGG GCATGGGTGG 540
 10 ACGGCGAGTT GTTGCTTCAT GATTGCGGGA GCGGGGTAG GCGAACCTAC CGCTACGTGT 600
 ACATAGCTGA AAGACTAGAT ATTATATAAT GTGACACAAC GTGCTGCACT GCGGCAGAAG 660
 15 GATGGCTTAA GAATCGTGTG CCTCTCTCTT GAGATCTCT GGGAAA 706

(2) INFORMATION FOR SEQ ID NO:945:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1585RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:945:

GATCCCCGTT GTTGTGCAGG TGTGATTCAA TATATACATA CTGCAAGTCT GTACATGTGC 60
 TCTATTATAT ATGGTGCTCA TGTTCGGCCT ACATTCTTTC TTTATACAGT TCATGTCTCT 120
 CGTGTGTGGC ATACCCAGTG ATGCCCCGTC TACCTGGTAA CCACAGTTTC TATAATCAAT 180
 CAGGCTGAAC TGATCAATGG AGCTGCGTTT GCGGAATTG ACGCAGAGGT TTGTATACAC 240
 50 ATTGATGTCC GCGCTGTAA AGCCCTTGCT AAACGTGCAG AAGCAATTCT TCGTTTGA 300
 ACACGAAGTG CAAGGCTTGA ATGCTATCAA CTTATCCACA TGCTTCAGCA GGTTCAGTTC 360
 55 CTTTGTGAGC AGGCGCTGCC TCACCTGTC TGGAACTGG CTAAGCCACT CGTTTGCCAG 420

CTCAGACACA TTTACCGGTG CGTGAAGCAT CTCGTGAAC GAGCCTGTGA CCGAGGGGTC 480
 5 CTGGAACAST ATCGTGATCG TGGCGTCACA CTTAATCTTC TTGAGCGGC AGATGTGCA 540
 GCTGGGGCCC GTCCGCTGAC GCTGTACTT CGACGCGGTG ATAAAGGTTG GCTCCTGTAG 600
 10 CAGCGAGTTC GGTGGCGAAC AGTGGCGTGC ACGTCCCCCG TTGGAAGCCC GAAGCAGATT 660
 CCGACATCAG CCGCGACATC GACACGCCCC GCGCGGACTC TGGCGAGCGC GCGTGT 716

(2) INFORMATION FOR SEQ ID NO:946:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 740 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1585UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:946:

GATCACTCTA CCGGGGACAG TTGATTGAGT CCAGTGAAGT GAATGTCAGA GAGTCACCAT 60
 TTTTCAAOCT ATGACCCCTCA TGGGCCAGCA TGAGTCCAAC CTTCAGCCTT TTTAAATTTT 120
 40 CTACATTTTG CCGCAGAGTC TCATAGGAAA TAATCAATAC AGGCTTGACT ACATTACGGC 180
 CCTGGGCAAT CGCCCACTGC CTGACGGACT GTGCAACCGA GCGGTTCGAA AGGGAACTTT 240
 45 TACGTCCATC GATAGCCAGT GCGGAAAGGG CATCGGGTCC CAACCACTTC ACAATCTCAT 300
 TAGCCCAAGT ATTAAACAGG GACGAAGGGC AGACAATGAT GCACTTTTCA ATTGTAGGAC 360
 50 GACCTTGGGA GCGCTGCGGT AGTAGGGTCC ACATTAAAGC TATACATTGC AGCGTTTAC 420
 CTAGACCCAT TTCATCAGCC ATAATACACC CATAAGCCCC CCTATTGAT TCTGAGTCA 480
 55

TAGCTGCAITT GGCATCCAAG ATCTCAGGCG AAGGGGTGGG CGTCGGGGTA AGAATGGGCG 540
 5 TGGGGGTCTC CTCAAGCAAC TCACAACTA TTGGCTCACT ATCTTTACTA CCGGATCCT 600
 TACCAGTGCC ATGTCTTTC ACCTGGCGG CTGCCAAGAG AGCCTGTGTA TCAAAAAAT 660
 10 COTTCATGCC CAGACCAGTC ACACAGCGGT ACAGGAATCT TACCCCTTCC ACTTGATGAG 720
 GCGGTAAAT CCGCGCCAGA 740

(2) INFORMATION FOR SEQ ID NO:947:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1586RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:947:

GATCAGGCGT AAGGGCAGGA TATGAATAT GGAGAGTCT ATTTTAACT CAATGGCATA 60
 TAAACACCGC ATATTTCTTG TGGTATGAT AACITCAAT ATGAATCAG TCGCAGGTA 120
 40 GAGGTTGGT GAGAGTTTAC CAGGATATC AGTTGTTGCT GCGCCCGCAG CACCAATAT 180
 AACTGAGAAT TTAAGTTTCT CGAAGAGAT ATGCAACGGG GGCTTGTCCA CTACGATTAA 240
 45 AAGACACCA GCTTTCTCAT GCCTTCACT ATGCAATAT AAATATATTG CAAAAGGCTT 300
 AAGCTCTGTA TTGACCCCG GAAATGTTT TAGCAATGTA GCTCTCTCAT CTTACATTA 360
 50 GGCTGGAAT GTGCTGACCA ACTGCAAAA CCCAGTCATA TGTAAATAG TGATGATAGT 420
 CAGCGGATA TTTAACCGG GGTGCAAAA ATTGATTTG CCCAGGATG AACTGGGGAC 480
 55

GTTCTGGGTG TTAAGCAGAT GCCATAACCG ACTAGACCAC GAAACCAACC TTGAAGAACG 540
 5 CACGCGCGGA AACCGACCAA CACAACCGGT GCAAACCAAG TGCGTGACGA CTCTTTAGGC 600
 GTGTGCTAGG GGGCGCGCCA CTGCTACTTA TTTTATAAAC CTGGATCCA GGTGGGTCCA 660
 10 TATACAGGGC GATCGCGGCC ATCTGCAGCA GCCAGGAACG CA 702

(2) INFORMATION FOR SEQ ID NO:948:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1586UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:948:

GATCAACAAA GTCAAATCCA AAATTGTGCT GGGAGAGAAA AAGATTCCGC CATCATGGG 60
 35 CCTTTCTAT AGCCATCAAT TCAACAATCG GTTAAGCGAT TTGAAGCCTT CAGCCCTTTA 120
 TGAGGGTGAT CCTGAGAAAC AAGATGGGAC TGCTACCGAT GGAAGCAGCG GTAGTGTCCA 180
 40 TGGGTATGCC ACTGATGATG ATATCATTGT CACAGGCGAG AACACCGTTT ACAGCCTAAG 240
 CCAAGGGATT GCATATCATA TAGATGAGGA AGGAAACTAT TATTATGCTG GTATCGATCC 300
 45 GTTTACTGAT GCATTGGAAC AAGAGCCAGA TTGCTTATAT CATGAAAGTG AGGTAGAAG 360
 CGTAAATGTC AACAACTTGG ACCATCTTTC TTCGATATC AAGGAAGAAA ACATAGACCT 420
 CGATGGTAAC ATAGAATTGT ACGATTCTGA CTMTGACCAC ACTTCCCTCG ACCAGGTCCC 480
 50 GAAGCTACA GAAACAATCG AAAAATACAA TAATAACCAA TACTACAAGA TGAACAGCT 540
 55

AATCACTGAC TCATCAAATT GCCAGGGCAA CACTGTAGCG CTCATCTG ATTATGGAAC 600

5 AACTTCCGTG CATGTGAAA ATGTCTCTAA TGAGAATTC TTGGGTCAT CAGGCTACAA 660

GGAGATATTC CTGAAAATA TGATGACTAC CTTTACGAAG GGGACGAAGA TGATTTGAT 720

10

(2) INFORMATION FOR SEQ ID NO:949:

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 678 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25

(A) ORGANISM: PAG1587RP

30

(vi) SEQUENCE DESCRIPTION: SEQ ID NO:949:

GATCATGAG AAGGAGCTGG AGGGCGTGG CATCGGCTG AACAGTCC CTCGACAT 60

35

CATTGTGAAG AAGAAGGAGA AGGGCGGTTT ATCGATCAG AACACAGTCC CGCTGACACA 120

TTTGGACCAC GACGGGATCC GCGGGGTGAT GAGTGAGTAC CGCATCAACA GCGCGGAGAT 180

40

TGCGTTCCGG TGGACGGGA CAGTTGACGA CTTGATTGAC GTCTGAGG CTCCAGCAG 240

GCGTTACATG CCGGCTATCT ACGTGCTGAA CAAGATGAC TCGCTGTCAG TGAAGAGTT 300

45

GGAGCTGCTG TACCGGATTC CGAATGCTGT GCCTATATCT AGTGAAGGG AGTGAACCT 360

AGATGAGCTG CTCGAGGTCA TGTGGGATCG CCTGAACCTG GTGAGAGTTT ACACCAAGCC 420

50

CAAGGGGACC ATGCCCGACT TCAATGACCC GGTGTGTGTTG CGGTGAGACC GTTGCACAGT 480

GCGGGATTTT TGTAAACAAA TCCACAAGTC TCTGGTTGAG GAGTTCCGGA ATGCTTTGGT 540

55

TTACGGTAGC AGTGTGAAAC ACCAGGCTCA GTACGTGGGT CTTGCACACA CTCTAGAGGA 600

TGAAGACGTT GTGACAATTC TGAAGAAGTA ATGTCTTGGC ATTTATGCAT GGTTCGAATG 660

5 CACACGTTCT CCGCTGC 678

(2) INFORMATION FOR SEQ ID NO:950:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1587UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:950:

30 GATCTAATA AAAGCTTTTC TGCAATTGCT CTACCTAGGC CTGGAAGGTC GGTAGGGCA 60
 CACGTTTCAA ATAGATGTGC AGGAGATAGC ACCTGGGTAT CACCCCCCTT AATTGATTCT 120
 35 TTAGTGCAAA CCAGATAGCC ATCAGGTTTC GCACGTTTGA AAGCCAAACG GGCTAGAACT 180
 AAGGACGGTG CGCACCCAC GCTTACCGAA CAGCGGCTG TGGCTCTGC TACTTCTGAT 240
 40 CGGATGGTA TACACAAGTT TTGACAACCA AGTGATATGA GGGCATGTC AATAACACAG 300
 ACAGGCTCAT CCACCGAAT TGGATACACT GGTGGAAG CCTTTAAAC CTCGAATACC 360
 45 TGTAGAAGG CATTGAAAT CGTTTGTAT TCATGGTAGG TATAGGGAG GCAAACCACT 420
 TGGGGCACA AGTTCTTGGC TTTGGAGACC CACATGCCAT TTTGTATTCC ACATTCCGA 480
 50 GCACATAAT TACAGGAGC AAGCTCCGA GATGAACCC CATGACACAC TGCCAACGGT 540
 ACTTGGGCTT TGCTTGGATA GCGGCTTG ATGCTGAAA TAGTCGAAA AAAGCAATCA 600
 55 AAATCCAGT GGAAGAGTG TGCTGGTGA GCGGCAAT CATTEAGGC ACCTTCATT 660

ATCCCGAGAT GCGTGTGAG AACTCTCGC GTAGAGCGC CT

702

(2) INFORMATION FOR SEQ ID NO:951:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 685 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1588RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:951:

GATCCTTAG TTCTGGAG TTGAGGCTA GAGGTGCCAG AAAAGTTACC ACAGGGATAA 60
 CTGGCTTGTG GCAGTCAAGC GTTCATAGCG ACATTGCTTT TTGATTCTTC GATGTGGCT 120
 CTTCCTATCA TACCGAAGCA GAATTCGGTA AGGTTGGAT TGTTCAOCCA CTAATAGGGA 180
 ACGTAGCTG GGTTAGACC GTGTGAGAC AGGTTAGTTT TACCTACTG ATGAATGTA 240
 TCGCAATAGT AATTGAACCT AGTACGAGAG GAACAGTCA TTGGATAAT TGGTTTTGC 300
 GCGTGTCCA CCGGGCATTC CCGGAGGCT ACCATCGCT GGATTATGC TGAACGCTC 360
 TAAGTCAGAA TCATGCTAG AACCGATCA TTCTTTTCT CCGACATTAT AGATGGATAC 420
 GAATAAGTG CTTTTAGCAT CGCTGAACCA TAGCAGGCG GCAACTGGTG TTCAGAGGA 480
 AAGTCTGGG CCGTGGCGG CGGATTGCA TTGCTACTG CCGAGAGTA AATCATTTGT 540
 ACACGACTTA GATGTACAAC AGGTATTGT AAGCAGTAG GTAGCTTGT TGTACGATC 600
 TGCTGAGAT AAGCTTGT TTCTGATT GTTTCTATT TGAAGTCT CAGAGCAGG 660
 CTTTGAATA GATCTTATG TTATT 685

(2) INFORMATION FOR SEQ ID NO:952:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1588UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:952:

GATCCCGTAC ACGAAGAAAA TCGGACGGGC CAACCAAACC CAAAGTTCAA CTACGAACCT 60
 TTTAACTGCA ACAACTTTAA TATACGCTAT TGGAGCTGGA ATTACCGGG CTGCTGGCAC 120
 CAGACTTGGC CTCCAATTGT TCCTCGTTAA GGIATTTACA TTGTACTCAT TCCAATTACA 180
 AGACCCGTAT GGGCCCTGTA TCGTTATTTA TTGTCACTAC CTCCTGAAT TAGGATTGGG 240
 TAAATTGGGC GCGTCTGTC TTCTTTGGAT GTGGTAGCCG TTCTCAGGC TCCTCTCCG 300
 GAATCGAACC CTATTCGCC GTTACCGGT GAAACCATGG TAGGCCACTA TCCTACCATC 360
 GAAAGTTGAT AGGGCAGAAA TTGGAATGAA CCATCGCCAG CACAAGGCGA TCGGATTGCA 420
 AAAGTTATTA TGAATCATCA AAGAGTCCGA AGACATTGAT TTTTATCTA ATAAATACAT 480
 CTCTTCCAAA AGGTGAGAT TTTAAGCATG TATTAGCTCT AGAATTACA CAGATATCCA 540
 TGTAGTAAAG GAACTATCAA ATAAAGATA ACTGATTTAA TGAGCCATTC GCAGTTTCAC 600
 TGTATAAATT GCTTATACTT AGACATGCAT GGCTTAATCT TTGAGACAAC ATATGACTAC 660
 TGGCAGGATC AACCAGATAC TATCTTAAAG AACAAACGAA AATGCCCAAG CACACCACCG 720
 GTC 723

(2) INFORMATION FOR SEQ ID NO:953:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 741 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1589RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:953:

GATCAITCAA GCATATTTAT TAATTAGATG ACATTAAACT ATTAGACCTT GGTTTGGGTT	60
GCTGGACTTA GGGTTGIGGT AGTCGGTGGG TTATATATTT TTTGTAGACA GTCACCAACA	120
CACITGATGT ATTTCITTTGA GCTGTGTGGG ATAGGCTGGC ATTGGATGGG GCACTGCTCA	180
TTGGCATGCT GCGGCTCAGC AATAACCATA GCGGCGCCCG CTAGAAGACC GAAAAAGTAG	240
GTTAGCTTCA TCTTGTGATA TTATTCGTGG TTTAATTAAA TGGAACTTTA GTGCTCTGGT	300
TCTCTGCCAT AGAGATCAGG ACGTTGGTTA GATATCGGTG CCTTATATA CACTGCTGCC	360
AAGGATGAT GGACTGTAGC CGAGCACTT CCAACTCAA AGATCGGACA TCAATGTATT	420
ACTGAGAGCC AGTATACTTA CCGCTTATCA CACTAAACC CATAGCCATG GTTACGAAGA	480
TGCTGATCTA TCATCCACA CAGCTGCCA CTGTAACGG ACTTGAGGTG GCGACAGAA	540
GGCACTACA GGATGAGCGT AAATCTCAA CAGCTAGCAA CACATGCCAT TATTCTATAC	600
GAACAGTAAC GTGCTTGATA TTACAGAATA CCGATTAGGT TTTTTCCTGC CAGACCAAAT	660
GCTATTTGGT AAACTCAAAT TTAGTCAGCC TTACATTACC TGGGTACCTC GAAGGTAGCA	720
ATGTTAGGCA CTCTGCCAGT A	741

(2) INFORMATION FOR SEQ ID NO:954:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1589UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:954:

```

25  GATCTTCTTG GCCATTATTG CAGTAGGGT AGGCGGCAT ATGAAATGAG ATGCGCGAG 60
    TCCTGGGCTT GAGCACTGA AAAATGGCAG TAAAAGAAA CGATCCCGC AACATTGTG 120
    CGAGTGACTT TTGAGGCAGA AGTACAGGT TCAGCCCGC GCTGCTTGC TGTGGATTCA 180
    GACCACCGT GGTGAAGTG GTGGTACACT GGGTCAGCT ATGCTCTAC GCTGCAGTCC 240
    AGGACAGACA TACCGCCAC TATAGCAGC CGATCACATA CATAAGTAAG AAAATTAGCC 300
    CCACTAGATT ATTGTGGGG TCATGCAGT CTGCACATT GCGTATGTG GTGTGGCGG 360
    GTAGTCTGCC ACCATGTTGA TACCGGAGC CGCCAGATCC AACCGAGGT ATAAAACTG 420
    GTAATGGAC AAATCGGGG CCGCCCGGC CGCGCTCC GCGCGTTAA GAGGCAACC 480
    CCGGCTTTG CGCTCTCCA TTGAGTCTT TTGGCTGTT CGGTGGCGC TGTGCTCCG 540
    CGTTTGGGC TTTAGGCTG TACGGGGCG GCTGTGCGG CCGTGGGGT CTTTGGGCT 600
    GTACGGAGC GGTGGGCTT TCGATCTT CGGCTGTAC GGAGCGGTG CTCCTTTGG 660
    ATCCTTCGG CTGTATCCG GAAGAACAC CTTGG 696
  
```

(2) INFORMATION FOR SEQ ID NO:955:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 640 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1590RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:955:

GATCATAATG ATTTGTCCTA ATTCTTTTCT TAATTATTCA TTAAATAATT AATTAAATTT 60
 TTATTAATAA AAAATATTKA KAKKGATGTT CGTTTATGAT AAATTCIAAA ACTTTGSARC 120
 ACGAACTGAA GACAACTATG TAACGCTGT AATTAAATTAT AAATTATTAT AATTAAATAT 180
 TCAAAAAATG GTAAGATTTA TCGAGGATTA TCGAATTAAA TAACATGTTT CACTGCTTAA 240
 GTCTGTAACC GTCTATTGTT TTGATTTTTA TTATGCTAA CGTAGTCATC AGCGGAATA 300
 CTTTAATTTT CATTAAATTT ATTCTTTAAT TAATAAAAAA TAAATAGGTA TTCATTGTTT 360
 ACTGCTAAAA CTACTGGGT ATCGAATCG ATTGCTACT TTAGCCTTG TTCTCAATG 420
 TCAATTAATA TATAATTAA ATTTTCACIT TATAAGTCTT ATTCATATAA TTATTATTTC 480
 ATCTTACTT GAATAATTCT TAAATTATTT TTATTAATTC TAATTATTAT TTAAATAAT 540
 CATTCTACGA ACCCTTAAG CCATTACGAT TAACGCTAAC CCCCTTGTG TTACCGCAGC 600
 TGCTGGCACA AATTTTGGTT GGGATTAATT AATTATATAT 640

(2) INFORMATION FOR SEQ ID NO:956:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1590UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:956:

	GATCTATTAT TAGAGGTAAT ACATTTAAC TAATATCTAA ATTCTCTTC TTCTTATTTA	60
20	TTCTTAACTT TAATTTATTA GGTAAATTAG GTGAATGTC TGTGAAGTA CCATTATTTT	120
	TAATAGGTC AATTGTACA TTTATTTATTT TTGCTTATTT CTAAATCTTA GTACCTATTA	180
25	TTTCTATAAT TGAAATATT TTATTTTATTT TACTAAATAA AAAATAATAA TTAAATAAAT	240
	AATAATAATA TTCATTAAAT ACTTTAATAT TAATATTTAT ATATATACT TCATTATCAT	300
30	TTATGAGGGT ACCTCATATT GCTGACTAGC AATAGGGGGG TGAACCTAC GCACCTAAAT	360
	GATAAGAGTT TATCAATTAA TTATATACTA TATATTATAA GTAAATTATC AAACCATATA	420
35	TAAGGTATAT ATATTAAGAA AGTTTGACTG AGTGGTTTAA AGTGTATAT TTGAOCTATT	480
	ATAAATCTTT ATGATTTTAT AGGTTTGAAT CCTATACTT TCGTATTAAA TAATTATTTA	540
40	AAATAATTAA AAATAGTTAA TAATAATGAG AACATGATGT TGGTTCAGAT TAAGGCTAA	600
	CTAAGGACAT TACACATCG AATCAAACGT TAATATTTAT AATTAAATAGT ATTAATAAGT	660
45	GGTGTACTCG TGAGTAAAAA TTAAGAATAA TGAACCTAAA TTAACTAAA TAT	713

(2) INFORMATION FOR SEQ ID NO:957:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1591RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:957:

5	GATCATAAGC ATCTTTAGCT CCACTATCCA TGTCGAAAT TTGCAGCTGA TAATAAAGTG	60
10	GTGTGTGGC CGAGCGGTCT AAGGCGCTG ATTCAAGTGT ATGCTTACAG CTGTTACAGT	120
15	TGGACACTCA GGTATCGTAA GATGCAGGAG TTGGAATCTC CTCGCAACCA ATTATTTTTT	180
20	TTTTTTGGAG TTCCAATGCA AATCAATTC TACTGCTGCG AAAAGGTCTC GTCAGCAGAT	240
25	AAAAGAATAT AGAATATGTA TATTATATA CAAGAAGCGT TAACTGACTT TTTATGTGTA	300
30	TAATGCCATT CGAAGAGATA TCGCTTATTA ACAGCAATAC CCCCCTGCAG GTCCCCGCCA	360
35	ACCGTTGTCC AGTGATGCAA AATATATAAC TCGCATGATA AAGAAGGCCC TTCATATCAA	420
40	ATGGCCCAGG CATTAATATC ACCGTTGCGG CGGCTTCAA CCAAGTAGCC ATCTTTATAT	480
45	CTGACATATT CCAAGGCAIT CTCACTATGC TCATCACCGC CGCAAAACCA ATGCTTCTTC	540
50	TCTTGCCGGT TGTAAACCTT CACTGTACCT TCTTGTTAG CGACAACAT CTTATTCAG	600
55	TCAAACGCA AACATGTCAC CGGTGTGTTA TACGAAAATG TATCAGCCAA TGTAACGGTA	660
60	CGTAGATCCC AGATCTAATG CTGTTATCCA AGGAACCACT CACAAGGTTT AGAGAATCAA	720

(2) INFORMATION FOR SEQ ID NO:958:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 697 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1591UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:958:

GATCCCCAAT GATCCCTCTC CGGCTACAA CATCGAGCAG CTGGCTAAC AGTCCAAGAA	60
CAAGGACAGG CTGGTGAAC TGCTTATAC TGTGAAGGG ATGGACCTCT CCATGAGGG	120
TATTCTGGC CACATCGACT CGCTCGGAA GGACCTATT CTGGAACA CGAAGACTA	180
CAAGCTCTC GACCGGAGA CCGCAAGCA GCTGTCACC GTAGAGGACC TGTGCTACTC	240
CCTACAGGAG CACCTGTTG CCATGCTGT GGAGATTAC GAGGTGCCA TGGCAGTGT	300
GAAGCTAAC CAGGTGTGA TTGTGGGGG TGTGGGCTC AATGTGGAC TGCAGCAGT	360
GATGGGAGT ATGTGCCA GAGGGGCGA CGCCAAGTT CATGGACCG ACGAGGCTT	420
CTGTATTGAC AACGGTGTA TGATTGACA GGCTGGTCTA CTTCAATAT GCATGGGGA	480
TATAGTAAA GACTTCTCAG AGACCGTGT CAGCAGAGG TTCCGGACTG ATGAGTTTA	540
CGTATGGTG CGGACTAAG TGTGTACAA GTTTAATAGA AGTTTACG CCTAATATA	600
GCTGTTAACC ATCAGTGGC TCGATCAGC TGGTCCAGAA CAGTAGTCC CGTGGCTGT	660
CACAGGCTA CGGGCCAGC GCCAGGTAT CTGTTG	697

(2) INFORMATION FOR SEQ ID NO:959:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 669 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1592RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:959:

10

GATCAGGAAC TCGCAGACCT TGGCTCTCTG GTGCGCTGC AACTGGATGA TCTGCCCCAT 60

CTCGTGCTCC TTGACCATGT TGGCGTTGCA GCCAAAGTCC TTCCGCAAGA CCTTCAAGA 120

15

TGGCGTTGAG GTCTACTTCC TCGCGATGC CCTGACGGT GGTCAACGTT TTTCTGCCGT 180

TTCTCTGCTG GATACGGATG TGGATGTAGT TGGAGGAGGA GGCTTGTGTG TCGCGGTGT 240

20

CAGCAAAGGG GTCGAACGAC TTGAGGTTTT CGATAGACAT GGTGGCGGTG GGGTGTGAGG 300

TACAAGGTAA GCAGAGAAA TTTTCAGCTG TCCTTTTAAA AGCGGCGACC TCGGTCTTG 360

25

GAACGCATTC GCTTATTTGT GAACCATATT CTTATCTGTA TAGGTGTAA CCGCATTTT 420

TCTGCAATTG CCGGTCTTTC TTGCGGTG GGACAACGCT TCCTTTCAAA CACACTTTCC 480

30

AGGAACTCCT TTGTTTCTT GGGTAACACT GTTCTCTTC GCTGTTTATC TCCTGTTAGT 540

AAGGCAGAGG CTGGGATTAC AATGAGACTC GTCACACATA CTTACCTAG CAGAACACTG 600

35

CAAATCGCCT GGATTGCTTG AGCTGTTTCT TCAATACYTG ACATTTGAGT TGTGGGGAGC 660

GAGGAAAGA 669

40

(2) INFORMATION FOR SEQ ID NO:960:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 588 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1592UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:960:

5 GATCCACTTG TTAACGTOGG CGCGGCCAAT CCTCATCCCT CCATATGTAA CCACAAGTGG 60
 TTTGTATCCC AACAAATTCA GCTCAATTGC CATCAAGTAC GGGTATCCCC CGCCTAGAGA 120
 10 ATGGCCAGTT ATAATTACCT CATAGTCTGG ATGAGCATCA TGTACTGGCT TAAAGCGGA 180
 ATAGATATCG TTGTAAGCCA ACTTAAATTG CTCATATACG CCGAGTGTA CAAAGCAATC 240
 15 TCCCGTACAC TTTCAGCGC CACTAAGTGG CTGGTATGGA ACCCCAGGAA AAATGAAATC 300
 CACAATCAA TCTTGAATTG TTACCGACCC TCTAAATATG ATCGAAATCT GCTTAGCGGT 360
 20 GTCATTTATT GCTATCATGC TATAACAGGA AAAGTCCCCG CGGGTCATGT CCGATCAA 420
 AACTTTAAT ACTTGAGTCC CTGTTGTTC ATGTACCACT TACCGTCATG AAAAGGGTCA 480
 25 GTGAGTATTA AAGTATTCAC GCAGTAAAG CTGTTAGTGA GATATGACAC ATATTTCAAT 540
 GTATCAAACA TCTCATCAGA GAAAGAATGG ACATGAAGGA AAAAAGGC 588
 30

(2) INFORMATION FOR SEQ ID NO:961:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1593RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:961:

GATCGAAATA GACAACTCTG CAACGGTGTG CAAATGGCCC AGCAACTTCC AGGAATAAAC 60
 55

ACAAGTAGAC CATAGCATCC AAGTACCTAT GCTCCTGGCC TTACTATGTC TTTGGAATGC 120
 5 AAAGGACCAA ACGTGCTGCA AGACGGAGGG AGAATTCCTC AGAAGAATTA CATTATACAG 180
 GCTOGAAGGT GTGACAGOGA ACCTATCATG GTCTCTCTTT GTCGGTCTG CCAAAAGAGA 240
 10 AGACCAGACC TCTTCAAGGG TGACTGCAAT TCGTGTCTA AGGTGCCAG TGACAOGAAC 300
 AACCGCTTTT CTGGCAAGT CAGGAGTTT TATGCTACTA GTAACCCGGT TATTTCCAC 360
 15 TAGGAGCAAT GCATTCAAT AAGCAGCCCA CAGTCCCAA TCAAATTCAC TGGCATTCCC 420
 ATCTGGAGGA ACATTATATT GGATTACAG ACTTTGTAC ATTTOCAATA TAGTACCCA 480
 20 TGCTCTCAA AATAGGCGAT GTAGTGAAT CCCTTACCG GAGGGCATGT ATCCATCTTT 540
 GGTCAATATT GTTACAGTAT TAACGGCACT TATAATATCT TCTTGGTAA ACCGGTAAAT 600
 25 GTTAAATACA GATGTTAAA TAGGATCATT GGGCAATCT TCACAACTT GTATAAATGA 660
 GCTGCCATGT CCATATATTT CTCTACAA TTTGGGTAA AGTTGCCAAT ATAGTACC 718

(2) INFORMATION FOR SEQ ID NO:962:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 652 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1593UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:962:

GATGATCTG TTGTAATTG GACACGGGA GCTCAAGCA GGGTAACGTA TGAGCGTGC 60
 TGTGGGGCT GCGGATGCT ATAGATAGG TCATACCACA TCATGGTTT GCGGGGTGG 120

TATAGCATTT GGAGGACAGG TTAGCCCGGA GCCACAGCAT AGACAGGTTT ACGAGGCTTG 180
 5 CAGCAGAGGA AAAGATGGGC AAGCGATTTG ACTGCCAGCC GACGGGAGG CTGGTGCGCG 240
 GCGCGATTAT CCGGGCGTTT TTGCCCTTGA AGCGGCACCC GCAGCAGCTG CTGGACAACC 300
 10 CGAACTACAC GAACCTGTAC CCGGGGGATG AGGTGTACAG CTTTGAGGAG ACGGCGGAG 360
 GGCGATGGTG TCGGTGTAC CAGGTGGTCC AACCGCTGCC GGAGGACTTT ATCTGACCA 420
 15 TGAAGCGSTT CTGGACAAG CTGCCGAGG AGCAGCACCG CGTGGTGGTG TGCCCGAAGG 480
 CGTTTGTCCA CTGGTATGAC GAGGAAGTGG TGACCTTTCC GTTCCTGGAC CTGCCCGAGG 540
 20 AGCGGGAGGT GAAGCGGAG GTGGCGGAGA CGGACGTGCC GAGCTGCAC GACCTGCTGC 600
 ATAGGGAAGA CTTGGGGGAC CTGCAGCTAT TCCGCAGCT GCGCGGAGG CG 652

25 (2) INFORMATION FOR SEQ ID NO:963:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 716 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1594RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:963:

GATCAAGACT GCGAACTGC TAGTTTCTTG CTTCATGAGG TTTCGAATCT TGTCACGAT 60
 50 GCGGGCGTTC ACCAGGGGGT TAGCCACTC AAGTGTCTA TTAAAGTCC GAGCAAACCA 120
 GTAGGAGGAT TCTAGAAGAC TGGTAAGCCG GATGGCGTTT TTGAAGGGTA TTGCGTTTGC 180
 55 GAAGTTCTCA TCCGAAAGA GCTCGCTAAG CGACTCTATC ATAAGCAGCT GCAGGACACA 240

TTTACCACG ATGGTATCTT TAATACTTAC ACGGTGCOCA ATCTCTCTGC TGGTTTTOGT 300

5 GCGCAGGAGT CGGCTCATAG GCTTATCTTC TTCAGTACTG GCGTTGCCAA CATCTCTGCC 360

CTTCTCTCTG CGTTGGGCAC GCTCGACTTC CCGATCAACA TCACTGGCAC ATGATTGGGT 420

10 TTCAGCAGTA CCGTTGGTGT TGATTGTGGC TACTGATGGC TTTCTTCCAC GCTTCAATGG 480

ATCTGACTCA AAAAGTTCTG TGGCAGTGGT AAGCTCAAAT AACCGGGCAA ACGAGTTGGT 540

15 AACCTGCTCC CAATGCGTTG TCCCGAATT GTTGGTGTTC TGGATAATCA ATGCTGTCAG 600

ACAAGACCTA CCAATCTCTG CAATGGTGTTC ATTTTCTCTA CAGATGCAAG AGACTAACAA 660

20 AACCAGGAAG CCATCCAACA TTTCGTTCAG TGAATCAAAG TAATGGGTAA CAGGGC 716

(2) INFORMATION FOR SEQ ID NO:964:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1594UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:964:

45 GATCTGAATT TAAAGTGAG ATACCGTTT TTCTGACAGA GATATATTTC CCTATATCTC 60

ACATGAAATC TTCTACTCCA CATCAGAAGA GGTATTTTTT GAGTGTATC CAACGACTAT 120

50 GCAATGACCC GAGAACCTTA ATTGAATTCT ACCTAAATTA TGACTGGAC AGTAGTATGC 180

CTAATATTGT CGAGACTGTT GTGGATTATT TGACCGGACT GCGCTAACA CGTGTGATA 240

55 TCACCGCATC ACAGCGTGG TACTATGATG AACAGTGAA CAAACCCCTT GCAACGIWTA 300

ACCTATOGCA GTTGCCCTTA TTATCCATAT CTAATGTTAG CAGTATGTCT GTTGCTCCAC 360
 5 AGCAACTCCA ATTCCCGGTG GAATTGCGC TTAAATGAC CTCGTTGAAA TGTATGTTGG 420
 CCGTGCTAAG ATCACTAAAT TCTTGGGCG ACAAGGCGAC GGCTCCAAAT GGCACATTAA 480
 10 ACCACAATAG GGCATCTGTT GGCTCCAGTA CGATTGAAAG GAAGCACTCT TCGGCTTTTA 540
 OCTCTTTCAG TCACACTATG AACACAACAC CTGTAGGAGA CCAGATTAGT GTCCAACAAT 600
 15 CGGAAGCGAG TGAGGATATT GATGATCCCA CACAGTTTGA AAATTGAG TTAAGGAAAA 660
 CAGAACTOCA AAAATGTATT CGGTATTTCA ACTTC 695

(2) INFORMATION FOR SEQ ID NO:965:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1595RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:965:

GATCTTGCTG CTATCCAGAA ATGGGAAGTT CTTAGACAAC GGGGAATTA GGGCCCTTTTC 60
 45 CAATATTTTG AGGTCGTTT CATAGCTGG AAGAGCGAGC AGAAGCCCCC CCAGTAGTGT 120
 CTGTCATGT TGGTCATGA AAGGTGCTC TATCAATCT AGCTCATCA TGGCAGTA 180
 50 GTTATTATCT TTCTTCCAAG ACAGAGCAC ATGCCCAAC TTGTCAGGA TTACAGTAAA 240
 ATAATGGTAG AACCGCGAC TCACAGAAGC GACGACCGCT CGAATGAAG TGGGCCGTA 300
 55 GAAGATCGTG CGGCCCTGCT TCTTATCAC AAGATGGAAC TGGGAAAGTC TGTCAAGGG 360

GGACACCGTG CCCATAACGT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420
 5 CCOCGCGAGC TCAGTCTCAA GCTCGTGGAT CCGTGGCAGC AGCTCCACAT TGGGCGTGA 480
 GCTGAACAGC TCCCGTGAGT TCAAGTGGTG CGTAAACTCA GACAGGTACA CACACTCGGG 540
 10 CAGGCGTTCC CAATACATGT AGAGCACTTC GCGCGCGCCT TGTTCACATT GACGCGCCGC 600
 TTGCGGCAGA ACACGCACGA CTTCGTGACC TTCCGCGTGG TTTTCACAAT CTTCGCATCG 660
 15 GACTCTGACA TCCCGCCAGC TTCAAGCAAA ATGAGTAGGC TATATTATT 709

(2) INFORMATION FOR SEQ ID NO:966:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 731 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1595UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:966:

GATCGCGGAC GTGGAGCACT GCGCGGAGAT GCGCGCGGCC ATCTGGTGG TTTCTGGGA 60
 40 CCGCAAGGGA CACGCCATCG ACGAGCGSTA TGCAGCAGAC GGTGCACAG TGGACCTCT 120
 TCAAGGAGCG CGTCGGAGCG GTGGTGCCGC GCGGTAAGG AGAGATGGCG GCGGCGATCC 180
 45 CCGCGCGCGA CTTCGGGAGC TTTGCGCGCC TGAAGATCA GACTCGAAC TGTGTTCAAG 240
 CCACCTGCGT GACTCAITTT CCGCGATCT TCTACATGAA CGACACTTCG CCGCGGATTG 300
 50 TCAAGCTGTG TCATCTGATC AACGATTCT ACAACGAGAC CATGTTGGCG TACACGTTTG 360
 ACGCGGGTCC GAACGCGGTG CTCTATTACT TGGCGGAGAA CGAGCGCGCG CTCTGCGGCT 420
 55

TCTCTCTGCG CGTCTTTGGC GCCAAGCAGG GCTGGGAGAC CAGTCTCTCG ACGGAGCAGC 480
 5 CCGCCACCTT CCGCGCGCAG TTGACGAGT GGTGCGCGG CAAGCTTGG ACGGACTCG 540
 ACGACGAATT GCACAGAAGA ATTGCCCGCC TCATCTTCAC GAAGGTGGG CCAGGGCCCA 600
 10 GGACACTAAA TCTCGCTCA TCGACCGAG ACGGGCTGC CCGCTGACG CTATTCTCT 660
 GCTATTTTCT GCTCTGTATA CCTGCCAGA CCGCTATAT ATATAGAATA TGCATTGCGA 720
 15 CGCTTACGCT T 731

(2) INFORMATION FOR SEQ ID NO:967:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 672 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1596RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:967:

GATCGACAAT CTGAGCGAAA TATTTAGCAC GACATGCTAC ATGGGCTCTA CGTGATAGT 60
 40 ATGGGAGTGG AGCAACCGGC TGTCATACT GGAGGCCAGG CGCCAGGCGC AGAGCAITCT 120
 GGGCGGGCGG GTGTATGAGG ACGAGGAGCA GGGGTACAAC TTTCGGCGAT ATGGGCTGAA 180
 45 GATTGAGACC GCATTGACCA GCAAGTCAGA TGAAGGCGAC ACCACATCAG CGACTACCTT 240
 TGCTGCACCG AGATCTGGGC GCTTGAAGG GAAAGGCGG CCCCATTCC CAGTCTATGT 300
 50 TCAAGAGGCG GAACAGCAGG CCGTCATGC ATTCAATAAG CGAATGGGCA CTCAGCGTT 360
 GGCACATCAT GTGCTGGATA GCATCATATA CTACACAGAC AAGGTGGTGG TGAAGGGGCT 420
 55

TGGAATTG TCCGCGAGCT TACCTTCCAA GACCTOCTCG GCGACAAGCG TCAGGGGTG 480
 5 TGTAAAGGAA CGCATTGGTC TCGAAGGGCG AAATGATGTC TTTGTATACC GCACAAAAGA 540
 CCTGGTATTC GATAGTGATG AAGATATACC CAGAACTAA CTACTGTGTG CGATATTTCT 600
 10 CACACGGCT GGTGCGGAAC CGGGGGCATA CATTGGTTTT ACACAAGAGG GGTTGATGCA 660
 TAAAACGGC TT 672

(2) INFORMATION FOR SEQ ID NO:968:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1596UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:968:

GATCTTCGTA TCCATGTGCG AAAGCTOCTC CAAAATCTTT TGTCTCCAT CATGAGAGGC 60
 40 TGCTACAGCT TTTGAGCCGA TAGAATGGA AATACCATG GAGATTGCTA TTAGTAGGAA 120
 GACAATATAA GTACCATCTG TCGATGGGCG AGAGGCTTTA TCAAGAAGGT CCATCAGCTT 180
 45 GTTCTTGGAT ACAGCAGTCT CATTTAATAA TAATGCCTGC TCACCACTGG GCAAAAATTC 240
 AGAAACATTG AGCAGTTCAG AGAGTGAGTT CGACTCAAAG TTTTCGGTCA TTGTCTCTAA 300
 50 CAAGACAAA ACAACGTCTT TCCTGCTCTC ATGAACATCA TAAGCCTTGA AAACCTCGAG 360
 CAAAATAGTA TTGTCTGGA TCAGTTCAA AAATACCTCT AGAATTAATG CCTTCTCCA 420
 55 CAATAAAGTG TCAGATTAG GAGACAGAGT GTGGATTAAAT AATGATAAAA TAACITCCAA 480

TTCCAATTCC AGCAATGTCA AATACTGAAC CTTTATGAGA ATGTAATACA TCTGGCGCTA 540
 5 CGAACCACAA TTCCAAAATT TTTGGATGAG GAAATGTACC TCAATAGCAG CGGCACGGCC 600
 TTTGTTCGCA ACAGAAATAA CAGATCTCGG TGTGTCAAAA ATAATAATTC ATAGTTCAAT 660
 10 AAAACCAATT CTAGGAGCTC TAATCCATAC TCTTCATTTA TGCAATTGCT ATCCAGCAAT 720
 GT 722

15 (2) INFORMATION FOR SEQ ID NO:969:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs
 20 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1597RP
 30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:969:

35 GATCCATCAG CGGGCTAGG GAAATCTGTC CCATAGAATG ACTCTCCAAA CCCCCTGTGAA 60
 CTATCAGCAA AAGCTCAACA GCATRCAGGG GTGGCATGCC CAGCAAAAAC AGATCCAGCG 120
 40 TCAGATAAGC GCTGCCARCG CACTCGATGA CCGGAATACC ATCACGGCAA TGGTCCAGCA 180
 TTTGATGCCC AAGAAGAAAG ACCAGCCACC GCAGCAACAG GGACCCCTATG GCTCTCGGCC 240
 45 AACTCTGGC AACAGCTCCA CGTACGGGGG CAGCCCTGCT GCCACGGGCG CGTCTGCATC 300
 CGTAAATGCT CCGCGCGCGG ATGACGCCCA AAAGGCTGTG CCACAGCCGC ACAGCGCCCC 360
 50 TCGCTATCC GCTAACGGTA ACACAGCCCC TATGTGGGA AACTGGGTTA GCCTTAGTAA 420
 TGGCTCATCA GCAGGCCCCG GTTGTGACA ACAGTCAAAC TCTCTGGACT GGAAGCAGAC 480
 55

ACCGCCAAGC AGTGGGGGAA GCGTAACCGA AAGAAAGCCA AAGCTGGCTC TATTGGCTAA 540
 5 GAAAAAATAA TATCATGGGA CCTATCATTT ACACATATTG TAAAGTTCCA CCTGTGTTAG 600
 TGTACTCATT TAATTAATTC ATTAGTGCTG CCACTGCTGC AGACATGTGG CAAGAGGCCAA 660
 10 AAATGTTTCC TAGCGGGATC GAACCGCT 688

(2) INFORMATION FOR SEQ ID NO:970:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1597UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:970:

GATCGAGGCA GCGGTACCGT CTTTGGGTAC GCATGGGCAG AGTACTGCGG GATACAGGGC 60
 AACATCTTAC GCTGACTACA GTTCCTGGAC ACACCACTT ACAGCTTTGG GCGTGGTTA 120
 40 TTGGTGCTCG AAGATATGAT GTTCGGAATT TTTCACTCGC CGTCGGGCTT GATGAAACTG 180
 GAAGACAAGA CCTACAGTCA TCTAGCCAAC ATAACGCCCT GTAGTGGGC TCTCGAAACG 240
 45 AGCGTAGAGC GTAGGAGATG CTCACGGGC CCGGTGCGT ACAGAGAAGA ACAAGACGGC 300
 CGGCATCTTT TTTATTTACT TGATTAACT CTGGCCAGT CTGGTTTCCA CTGACAAAGT 360
 50 GCGCACAGA TGGATGCGG GCGCGGTGAT CTTGCCCCGG CGATAGCGGG CGACCGGAGC 420
 TTGCGTGGGT TTCACCTGCA TCTGCACAAG ATGTTGCTAC GCGGTAGAAG CAGCGGTGG 480
 55 GAGGCGCAGC GCGCGCAAC AGGACGTCAG TCTGACGGC TACTTGGCCC GCGCTGCTGC 540

ACCGGCTGAA TTGGGCTCCC GCGAAGTCTT GATTGCTACG TTGAGTCATA GTCTCAGTAA 600
 5 TTATCGCATG GTGTTACTGG CGTTGCACGT GACCACACTG TGGGTCTTT TTGCCCCACA 660
 GATGAACCTG CCATCAGCTC TCCGCCAGGA CGGTACACAC AGGCAGCAGT AC 712

10 (2) INFORMATION FOR SEQ ID NO:971:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 740 base pairs
 15 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1598RP
 25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:971:

30 GATCTTCATA ATCATAGTAC AATATCAITTT CCAATAAATG GAATAGCACT AAATAAATTA 60
 GTAAATAACAG TAGCACTCA ATGTGACATT TGTCCATATA CTAAACAATA ACCTAAGAAA 120
 35 GCTGCTGCTA TAGTTAAAT AAAGATAATA ACACCAACTG TTCATACAAT AACTCTAGGT 180
 GATTATAAG AACCATAATA TAAACCTTTA CCAATATGAA TATACATACA AATAAAGAAG 240
 40 AATGAAGCAC CATTAAGATG CATATATCTA ATTAATCAAC CTAGTTGTAC ATCTTCATA 300
 ATATGTTCTA CTGATGAGAA AGCTAATTCA ATATTAGATG AATAATGCAT AGCTAAAAAA 360
 ATACCAGTAA GAATTTGAAT AACTAAACAT AAACCTAATA AAGAACTAA ATTTTCATCA 420
 TAATTAATTG ATGATGGTTG AGGTGAATCA ATAACATAAC TATTAACTAA ATTTAAATAT 480
 50 AAATTIGATT TTCTATATGC CATATATTTT ATTATTAATA TATTATTAAA TTATTATTTA 540
 ATAAATATTA GATTATAATA TAATTCITTA TAATAAATTA TATTATTTAA TTAATATATT 600
 55

AATTATATAT TTATTATTTA TTAATATTTA TATAATCTTT ATAGGGAATT GAACCTAATA 660
 AACCATTAG ATTAAATTAT TTAATTATTT AATTATTTA ATTATTTAAT TTATAAATTA 720
 TTAATTAGAG AGATAAGGGT 740

(2) INFORMATION FOR SEQ ID NO:972:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1598UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:972:

GATCTTATCG TCTAATGGTT ACGACATCAT CTCTTCATGT TGAAATATC GGTTCAATTC 60
 CGATTAAGAT TATTAATATA TTITAATAAT TATTATAATT AACATATTA ATTAGAGGGG 120
 TACCAACATA TTGCTAACTA GCAATAGGGG TGIGTACCTT ATCTCTCTAA TTAATAATTT 180
 ATAAATTAAA TAATTAAATA AATTAAATAA TTAATAAATT AAATCTAAT GGTTATTATG 240
 GTTCAATTCG TATAAGATT ATATAAATAT TAATAAATAA TAAATAATAA ATTAATATAT 300
 TAATTAAATA ATATAATTTA TTATAAGAA TTATATTATA ATCTAATATT TATTAAATAA 360
 TAATTTAATA ATATTTTAAT AATAAAATAT ATGCCATATA GAAATCAAA TTTATATTTA 420
 AATTAGITA ATAGTTATGT TATTGATCA CCTCAACCAT CATCAATTAA TTATTGATGA 480
 AATTAGGTT CTTTATTAGG TTTATGTTTA GTTATTCAAA TTCTTACTGG TATTTTTTTA 540
 GCTATGCATT ATTCATCTAA TATTGAATTA GCTTTCTCAT CAGTAGAACA TATTATGAGA 600

GATGTTCAAC TAGGTTGATT AATTAGATAT ATGCATCTTA ATGGTGCTTC ATTCTTCTTT 660

5 ATTGTATGT ATATTCAAT TGGTAAA 688

(2) INFORMATION FOR SEQ ID NO:973:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 625 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1600RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:973:

30 GATCTAAAAG AATCATGTA TGTACACATA TTACGGAGGG TTAAGGTGAC GAACGGTAGC 60
 TACAGGCTTA TAAATCTGGG TTCTTTTCCA AAAGTTCATG CAACTCATCT GGGACGTTGC 120
 GCCAGTCTTC GGCAATCCAT TTCTTTATCC TATCTCATC GGCTGTGCT AGTATATCTA 180
 35 CTTCAAGAGA GCTCTGGCA CATGTAAAT TCCAGCGGG AGAGAGGACA GGCGAGATT 240
 CTTGAGTGGG GTAAGAACT TGTTTGTATG GTATGCTGCT AGCATCTTC TTCTGTCTGT 300
 40 GTTCTTACC GTTGTTAAT GATACTCGA TATAATGTC TATTAACATC TCTGGTATG 360
 GGGCAAGTT TTTGGGCTG TAGTGGCCA CATATTTGCA CCTCCAGTAT ACAGACCAAT 420
 GTAGTTCACC ATATGCGGG ATGTTCTAT GTCTACCAAG GTTAGGCACA TAAAGTTT 480
 50 TCCATTTGCA ATTTTATCT TCAATCTTA TGGGATGAA CATCATTTCC ACTATCCACC 540
 AGGCAATGAA CTGAATATA CTCTTTGTC CATGTCCATC GTTCTTTGCT GCGCGATTA 600
 55 TACATCTCCG GAAGGAAGGC CTGG 625

(2) INFORMATION FOR SEQ ID NO:974:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 656 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1600UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:974:

25	GATCAAGCAG CTA CTGCTCA CCTGGAAGAA GCAGGGGCAC AAGGCGCTGC TCTTCACCA	60
	GTCCAGGCAG ATGCTGACA TCTGGAGGC CTACATCTCG CACAAAGATC CCGAGCTGGC	120
30	AGGCTACAG TACCTCGGA TGGAGGAAC CACAAACATC GCACACGGC AGGCGCTGT	180
	GGACGTTTC AACACGGC CGTACCACT CTTCTTCTG ACCACCGCG TGGGGGCT	240
35	CGGGTCAAC CTCACGGCG CGAACAGAT CATCATCTTC GACCGGACT GGAACCGTC	300
	CACGGACTG CAGGCGCGG AGCGCGCTG GCGCATAGC CAGAAGCGG AGTGACTAT	360
40	CTACCTGCTC ATGGTCGCG GCTCATGGA GGAGAAGATA TACCACGGC AGATCTTCAA	420
	GCAGTTTCTC ACCACAAGG TCTCAGGGA CCCCAAGCAG AAGCGTTCT TCAAGATGAA	480
45	CGAGCTGCAC GACCTTCTT CCTTGGGCG GGGCGCGCG AGCGACTCT TTGCTCTGA	540
	GATCGAGCAG CAGACCGCT CCTTCGCGG CCAGCGGCG GCGACGGCA CCGAGACTA	600
50	CGACTCGTC CAGCGTTTG AGGGGTCTC CAAGCTGAG GGCTTCTTCA AGGCA	656

(2) INFORMATION FOR SEQ ID NO:975:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1601RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:975:

20	GATCTTTTTC CCCCGCAAAC CGCACACCTC GTTCCAGGGG TACTTGGGCA ACAAAAAGGC	60
	GACCGAGAGC AAGGTTCTAC GCGATGTTTT CAGGAAGGA GATGCATGGT ACCGGTCAGG	120
25	CGATCTCTTG AAATCCGACA AGTACGGGCA ATGGTACTTC GTGGACCGGA TGGGTGATAC	180
	GTACCGGTGG AAATCCGAAA ATGTCTOGAC TACCGAGGTG GAGAATCAGT TGCTCTGGTT	240
30	CAACAAGGAC CTCCTTGACT GTTTGGTGTG AGTGGGCTG AAGATTCAA GCTACGAGGG	300
	TAGAGCCGGG TTTGCTGTGA TCCAACTGAA TCCAGCGGGC CGGGGACTGG ACCATGCCAG	360
35	TTTGTTAGAC GACCTGTGCG AGTATTGAA ACATGCTCTT CCTGGTAAG CCTTCCCGCT	420
	GTTCATCAAG TTCACAAACC AGCTGGAAAC AACCGATAAC TATAAGTTTG CCAAGAAACA	480
40	GTACAAAAC CAGCAGTTC CTCATGGTGC GGATGGGGAC GAGACAATTT ACTGGTTAAA	540
	AGACTACTCC CAGTACAAAG TCTTGACCGA CGAGGACTGG GAGCAGATAT CAAACGGAAA	600
45	GGCAAAGCIT TAGACGAGAC AATGCCGGGA TTGACACCGG TAGGGAGTTC AAAATAAAAA	660
	AAATACCTGG GAAGCCATCC ATAAAAGCCA TTATCAACTA TAGAAATAGA AAAGT	715

(2) INFORMATION FOR SEQ ID NO:976:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1601UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:976:

GATCGCCCTG TCCCGGGACG GAGAGCGGCG CCTCGCGTAG CATAAAAGCA CGCAGGTCAC	60
TGTGCATGAA ACTCGAATCG AACCGCGTAC TCGATGGTAG AACTAAACGG GCTCGGCTTC	120
GAAGTAGCA CAGTTGAGTG AAATGTCACT GTCGGCGCAA CGCGCCCAAG AGCAGAATAG	180
CATGGACATC GAACAGAGGT CATCGCAGCC GAGTCGAAGC AACAGCCATG CAGGATCGCC	240
GGGGTAGCAA AAAGTGCAGC CGCTGTATGC CGCAGAGAAC GGTTCACCG AGACTGCCCC	300
GACAGCCACC GGGCTGTTTG ATAGCTGCCA CGTGTGACCG GTGTGCAAC GCGCGGACT	360
GCTGAGTAGG CTGGCGCTTG TGCCCGAATT CCGGAGCGCA CGTCTCTATC CCGCGGGGT	420
CAAAAAGCTG ATCTGTGCA TGTGCGCTT TGCATGTATT CTGGGTCCCA TGGGACCAA	480
CATCATCTAT CCTCGGATCG GGACTATCAT GCAGGATTTT GGCAGTTGCG GATTCTGGT	540
CAGTGTGCT GTAGGCACT ACCTGCTGC GCTGGGCATC TTCCCATCT GTGGTGTGTC	600
GCTGGCGGAC AAAAAGCGCC GCGACAGT GTAGTGCTG TGTTCGCG TCCTGGTGGT	660
GTCAGCGTT GCGCAGGCT TCTGCGCAA CATGAGAC	699

(2) INFORMATION FOR SEQ ID NO:977:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1602RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:977:

GATCCAAGCG	CCCGCACAAC	CACCGATGTT	TGCAACATAT	TCGGCTAGTA	TTCTCCGTTT	60
GACTTTACCC	CTGGGTAGCG	TTGGCGTCAG	ACTGCTGAGC	CAGGAAACTC	GGCGGGCCAT	120
TGAGGGCGCC	ATTTCTCTTG	CCCCAGTGGT	TCTGTTTATG	AAGGGCACCC	CAGAGTTCCC	180
TCAATGTGGC	TTTTGGAAGG	CGCCATTGA	GATCTTGGGC	AGACAGGGCG	TGGATCCTGC	240
GAAGTTTGGG	GCGTTCAACG	TGCTGGAGGA	TTCTGAGCTG	CGGAGCGGGA	TAAAGGAATA	300
TTCCGAGTGG	CCTACAATTC	CACAGCTCTA	CGTCAACAAG	GAATTTGTTG	GGGGGTGCGA	360
CATCTTCACC	AACATGGCGC	AATCCGGCGA	GCTAACTACT	ATGCTOGAGG	AGGCATCGGT	420
TCTTGTGCGG	GATACTGAGT	GATGCCGGGT	ACGGCTCCCG	ACTATATTTA	TAGGAATACA	480
GCTTGTAAAT	TAAGACTTGT	ATTCTCATGC	CTTTAGACTT	GTAAATCATG	GTGTTTTAAT	540
TCACAAACTC	CGTTCTTTCA	GTGAAAGAA	GTCGAGACAG	CTTGCTTTTC	GTCATGTGTG	600
AAAGAGGCTT	CTGATGGAGG	AGGCGTGCAC	ACGCCAGCAG	AGAAAGTCTC	TCAAAAAATG	660
ACGTCTAGT	GGAAGGGCGG	ACGCAATCAC	CCTTGAATGC	GCGA		704

(2) INFORMATION FOR SEQ ID NO:978:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 476 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1602UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:978:

GATCGTGCCC GGGCTGTGTC TTGTGCCAG AGTTGTGCTT GTGCCCAGC TTTTGCTGGC 60
TGCTTGGTC GCTGCCGCG GGGTAGTACA CGCGAACTG CTTGAGCGC AGCGGCGCGC 120
GGAAGTGCAC CGTCAGCTCC TGGTCCAGCG GAGAGAGACT GCGGAGAAC TCCAATTTTC 180
TCTGCTTACA CTTGCAGCTC TTCTGTGCA TCTGTGTGAC GTCCAGGTAC GTGCGGCTGT 240
AGCCACATT GGCATACCG ATATTTTCTG CCTTCGAGCA GTAGTAATTC CTTCCGATGA 300
AATCACAATC GCGCAGCAC TGTGCGCAG CGAGCAGGC ACCTGCAACG ACTGTGACA 360
GCTTCATAAT TTGTAAAGC TTGTAAAGA ATGACTAGTA GTTAGAACAG ATAAAGAGT 420
GCTTGTCTGT GTGCGGTGTC GCGGTCCAC GCTTCCGAG CTCACCGCC TTCTTA 476

(2) INFORMATION FOR SEQ ID NO:979:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1603RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:979:

GATCGGCAA GATGTGCTT CAGTTGACCG GCAGATTGAA CAAGTGGGT GTCATCTCTC 60

CAAGATTCAA CGTCAAGATC AAGGACGTGG AGAAGTGGAC TGCCAACTTA TTGCCAGCCA 120
 5 GACAGTTGGG CTACGTGATC TTGACCACTT CCGCGGGCAT TATGGACCA CAGGAGGCCC 180
 ACAGAAAGCA CGTTGCTGGT AAGATTTTGG GTTTTGTTCTA CTAAGGGGCT GCTATATAGC 240
 10 GTATCTAGCT CTAATGTACG ATACTCAGTG TCTATTACGA CCGCGGGAG CTCCAGGGCC 300
 CACATAGGAG GCGAGCGGC GACGCCAAGC GCGAATTCAG ATCGTTAAT TAGCAGTAGA 360
 15 TTAGTAGTAT ATATGTACAA ACAGCATACA CATGAAGGC GTGGCGATC ATAATCTTCT 420
 AACTCTCTA CCACCTTCT TTCTGGTAGA GTGGATGGG ATAGGAGTGA CGTCTCGAT 480
 20 ACGGCGATT CTCAAGCGG ATCTGGCAA AGCTCTCAA GCAGCTGAC CACCTGGACC 540
 TGGGTCTTG GTCTGTGAC CACCGTAGC TCTGATCTTG ACGTCACAG CAGTGATGC 600
 25 GACCTCTTA CACTGGCAG CGACGTCTG AGCAGCCAAC ATGGCAAGT ATGGAGAGGA 660
 CTGCTCTG TGGGCTTGA ACTTCATAC ACGGTAAC CTGGCAATAG TTCTCTGCCA 720
 30 GACA 724

(2) INFORMATION FOR SEQ ID NO:980:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 721 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1603UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:980:

55 GATCTATTTG TGCGTCCG CATTAGCAA GCGCAAGCA TGATCCAAA TCATGAGGT 60

ACCCTGGGGC TTTCACITTC CAAGCCTTFA TCAACAAATC TGGTACAAGA TACATOCATC 120
 5 GCGACAGCAC ATATACCAGA ACGGGAAGC CGACAAGATG GCACTAGACT CTGGTAGGTA 180
 ATCTGAGITC GACCATATCC ACTTCGTAA TGGTGATAGT TGATAAAAAG AAACGATACT 240
 10 GAAAATTTTA ATGGTTACCA ATCTCATCTC ATCGCCATAC TGAAAGAATA TTGTAGGTCT 300
 CGCAGTGGAA CAAGGATCAA GCGCAGGCTA AGACAATAAT GGTTCGAGG GAGGCAGTAC 360
 15 AGGAAGTACC CCCAGATGAA GAAGAAGTGG CTTTGGCTAA GCTAGTGTTT GCGGACACAG 420
 CAGACTTCCA TGAAGGGCTG CGAATGCAG ACGTTAATTA TCTTTCTTCA GATGAAGAG 480
 20 TATATGGCCA GGAGTGTTC AGTGATGAG AAGAGGGGAC TGAAATGGT CACCTGAATG 540
 ATGACCAATT GTTTTTTGTG GAGGAGGGTG CAGATACGA GCGAGGAGCA GATGAGAAC 600
 25 GGAGGCCATG GAGGTGGAC AGGTAGCGA GGAAAGGAC TCGGAGAGG AAAGGGTAG 660
 CAGCGCTGCA TGGTCAGATT CGATGACGA ACGTTAAAC GTTACATAG GCGAAACCAA 720
 30 T 721

(2) INFORMATION FOR SEQ ID NO:981:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 638 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1604RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:981:

GATCCCTATT AGAAGAGGTT ACTGGGGCTC CAACCTTGGT CAGCCACACT CTCTAGCCAC 60
 55

GAAGACCTCT GGTAACTCTG GTTCGGTCAC TGTGGGTTTG ATCCCTGCCC CACGTGGTTC 120

5 CGGTATCGTC GCGTCTCCAG CTGTCAAGAA GCTTCTACAG CTTCCTGGTG TCGAGGATGT 180

GTACACTTCC TCCACCGGTT CTACCCGTAC CCTAGAGAAC ACCTTGAAGG CTGCGTTGGT 240

10 TCCCATTTGT AACACCTACG GTTCTTTGAC CCCAGACTTG TGGCCAGAGA ACCAGTTGCC 300

AGCTTCTCCT CTAGACGTCT ACGCCGACGA GCGCGTTGCC CAGAAGAAGA GATTCTAAGT 360

15 AGTGTGTGTA CATACCAACA GTTTGTTTCT TTCCAGTGA ACCGCCCCGC TAAGCCTTTA 420

GGGCGATGGC ACACAGACTG CCGTTGGGCA GGAGATCGGT TGTCTTCCGA CGCTGGTACA 480

20 GCGCTGGGAT GCGGTCTGC GCGTGGCGT GCATATCGGA GATATGGCGC CGTGGCCGTA 540

CGGCAAGAA TCAGCAAGAC ACTAGCGTCT GGCATTCTTT TTCAATGCAT TATTTAGCTT 600

25 TTTTTTTTTT TTTTTTTTGA GTATAGACAC ATATAAGT 638

(2) INFORMATION FOR SEQ ID NO:982:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1604UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:982:

50 GATCAGAGCA TCCGATGAGG TGGCACCGGC CCGTCCGCT GTGTCTTTCT TCGCGGTATC 60

GGCTTCCGAA ATACTTAGCT TCTCAATACT TGGACTGCC TTATCTTCAG AGGAAGCGGT 120

55 AGCATCTCA CTCTTAGGAG CGCCCTCTGC GCTGCTCTTA GGCTCTCTCT TTGTGGCTC 180

CTCCGCCCTTA GCGCTCTCTT TCTTCGGGAC AGGTTTCTTA GCACCAACTA GCTTGATACC 240

5 GGAGCTGGAA GCCAACTTGA GGGTCTTCTT TGGTTTGGGA GCAGTGGCAT TGGCACAGT 300

TCCCTTCTCA AAGTTGTTC ACGTCACCG AGCGGTGGCT GACTGGCCCT GTCCGTAAAC 360

10 ATAGCTCTGG TTCCCTTAC GGTTCCCTG TGGCTGTGAG TTGTACTGCT TGTAGCTCTG 420

ATACCCCACT TGGCATTTGT ATTGCTGGTA ACCTTGGTAG CCAGCTTGTG CTGGGTGTGA 480

15 CTGCTGGTAT CCTGATAAC CCTGGTACCC GCGGCTTGC TGGTTGTATT GCGCATAGCC 540

TTGGTACCCA CCTGCTGTT GGCCATAGC CTGGTAACCT CCTGAGGCA CATACCCCTG 600

20 GTAATTCTGG AAGTTACTTG GGTGTAGTA TTGGCCGAA TTGCTGCC CTGACCTTGA 660

TTTGTACCTT GATCCTTGGC TTGCGACTGG CCTTGGTCTG TGCCCTTGGGA 710

25 (2) INFORMATION FOR SEQ ID NO:983:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 688 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1605RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:983:

GATCTTCTCA AAAGTAGCAT TTACAATCTG CGTTAGCGTT GCTTGIGCAA TTCCCTGGTT 60

50 GGACGAGCTT AGTGACAGGA TGAAATATT ATAGATTTGT CTGACGGCCT TTAATAGTGA 120

TGCACCGTGA CAATTGCAAT AAGGTCATC TGTCAATATA CAGCTTGCGA GGGCGCGAC 180

55 TACCTGCAAC TCGACCTTCC CATCAGTGGC TTCTCCATCA AACAGTGG TTATGGTATC 240

AACGGCAGCA TGTATCAGCC GCATTCTTGG AGGTGGTGTA ACACCAAGAT CTGSCAAAGT 300
 5 CGTGCCTTGG TGTATTGATG CTGCGGAATT TGGAGGGTTG ACTAAAACAT TCTCGTCTAA 360
 CGCCTTAAAG GCAAACAAC TTAGTAGACA ATCAAGAGCG CTAACCTGTA TTTCTGGAAC 420
 10 ATTAGTTCTA CAGCAAGCAC GTAGTGCTC AAAGACCAAC AGAGAATCCA AAACTTTTG 480
 ATCGTTTCA GATTGCAGGA GTTGCTGGT CAAGTTTTC ACAGTTTCT CAACCAGTTT 540
 15 TTCAATTATTA GGATGTTGT GCATGGATT TGTCTGTAGT ATACCTCTA ACCTTAGTTT 600
 CACAAGATGC ACTGCGGATT TCATGTCCA TGGACTACCA GAGACATTGG AATATGCCCT 660
 20 TGTGTGAGCC TTGAGATTAT CCTGCGAC 688

(2) INFORMATION FOR SEQ ID NO:984:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1605UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:984:

GATCAGAGCA TCCGATGAGG TGGCACCGGC CGGTCGGCT GTGTCTTTCT TCGCGTATC 60
 45 GGCTTCGGAA ATACTTAGCT TCTCAATACT TGGACTGCC TTATCTTCAG AGGAAGGGT 120
 AGCATCTTCA CTCTTAGGAG CGCCCTCTGC GCTGCTCTTA GCTCTCTCT TGTGTGCTC 180
 50 CTCGGCTTCA GCTCTTTCTT TCTTCGGAC AGGTTTCTTA GCACCAACTA GCTTGATACC 240
 GGAGCTGGAA GCCAACTTGA GGGTCTTCTT TGGTTTTGGA GCAGTGGCAT TCGCACAGT 300
 55

TCCCTTCTCA AAGTGTGTCA GGGTCACCG AGGGTGGCT GACTGGCCCT GTCCGTAACC 360
 5 ATAGCTCTGG TTCCCTTAC GGTTCCTG TGCTGTGAG TTGTACTCT TGTAGCTCTG 420
 ATACCCACCT TGCCATTGT ATTGCTGGTA ACCTTGGTAG CCAGCTGTG CTGGGTGTA 480
 10 CTGCTGSTAT CCTGATAAC OCTGGTACC GCGGGCTGC TGGTTGTATT GGCATAGCC 540
 TTGGTACCA CCTGCTGTT GGCATACC CTGTAACCT CCTGAGGA CATACCCCTG 600
 15 GTAATCTGG AAGTACTTG GGTGTAGTA TTGGCGAAA TTTTGTGCC OCTGACCTG 660
 ATTTGACCT TGATCTTGG CTGCGACTG GCTTGGTGG TTGCTTGGG ATTGAATTG 720
 20 ATCTT 725

(2) INFORMATION FOR SEQ ID NO:985:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 678 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1606RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:985:

GATCAAGCAT ATCAAATTTC CGCAATCTG CGGGTCATT TTTTGGACA ACAGGGTCT 60
 45 CCACAGGTC CATCTCATC AGCGAGCTA TAGTTGGA CAGTGGCTC AGCTTGGTAC 120
 TCTGGAGAG AATTGAGAG CCTTGGAGC TGCTGTATG GTAAGTGTG TCCGTGCGT 180
 50 AGGTGCTCA AGACAGGAC TCTGAATACT CGCATTTGC ATCCCGTTG CGCGTAGT 240
 ATCCGTGCGC CTGGACTTG ATGCGAGTG TGTCCAGCA CGAGACAGC GAAGGTAGTC 300
 55

TCAGTGGCCG CGTGGGCGAT ACGTGTACT CGAGCACAGA CTCGTTGTGT CCCCTCCCGG 360
 5 TCATGTTCTT CGGCTCAGTT CGGACAAAG CTCGCCACCA TGGCTGCCCC CTCGCCTTCT 420
 TTCTGTGAA GGGCCCAAAC ATTAAATCTA GCTGCTTCTT CCTGCTACTC TGTTCGCTCT 480
 10 GTTCTGCCC GGGAGCCCC TGGATTCAA TCTCTGTACA GCGTTATGC CGCACTTCT 540
 CGTCTAATT GGCTGCCACA CTCTGCTGC TCGAACTAA GCGTCTGTA CGAAGCCTT 600
 15 TCGTGTACTT GACCGTGGG GCGTAATCTA TTATTGGAAC CTTGTAAAAG CGGGCTTCTG 660
 TACGCTATTA GTTAGGCC 678

(2) INFORMATION FOR SEQ ID NO:986:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1606UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:986:

GATCCGCTTG AGTACTGAGA TATTAAGTCA ATACCAGGAT AAGCTTTCAA AGCACGGTAA 60
 45 TCCTACTGTG CAATGGTGGG GACCTACTGA TTCTCGCAC TACGTCTAG CGCCTGAAAT 120
 TTATCATAC GTGTCCGAG ACGAACTGG OCTTGCAGAT ATGATGAGG CTTGGACTTA 180
 50 CATGAAAGT ACCACGAAT ACCGGTTAAA TGTGGGGAC GAAGAGCCTC TAGATATTTG 240
 GGAATTAGAA TACGAAGAGA AAAAGCTCA ACGTTAGGA TTAGGACCA AGTACAGCAG 300
 55 CATGACTTAC AGAAAGCATC CTGCCAGGC GTGGCTGTA TTAGATACAT CCAAAAATGG 360

TTCTAAGAG CATAAGCGTA AAGGAAAGCA ACACAAATTA AAAAAAGGAC AGCAGTCTAC 420
 5 AAAGATAAGG GTATCAAAAA AAAGGCGAGC CGTACAACCA CACAGCATAT GCGATTAAATA 480
 ATCTTACAAT CGTACTAAGT AATACATACC GCGCTTATAG AATCTGCTGC TGCACGGAAA 540
 10 GTTGCATATG CGAAAACATG CTATGCAGTG GATGATCGCG TACCCTTTT TAATCCGATA 600
 AAAGTGGACT AGCGATAAAT AGTAATTTC AATAGGGAATG TGAATTTCGA TTGAGAATTG 660
 15 GGATAATGCT GGGATTCTCT GTGATTATAA TACCATAAAT ATA 703

(2) INFORMATION FOR SEQ ID NO:987:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 622 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1607RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:987:

40 GATCACACGA CAGTGCCAGT CCGGGCAGCC GGTACCGGTT GCGCCCATCG TGAAGCTGAC 60
 TCCGAAGAAC CCCTTCTACA AAGTCCCGCA GACCGAAGAC CTGTGACGG TCATGGGCAT 120
 CCTTGGCTCC GCGGTGCACC GTGTGCCCAT TGTGGACTCC AACTCTTCAT CTATCGGTGG 180
 45 CATCTGTGTC CAGCGACGTC TGATGAAGTA CCTGTGGGAC AACGCGCGCC AGTTCAGCAA 240
 CCTGGAGGTG CTCTCAACT CGTGGCTGCA AAAGTTGGGC ATCGGTGTGC TGGATCCACA 300
 50 TACCCCTCCT ACTTGGCGGC AGTGGGTGT TATTTCATT CTGACACAG AGCCGCTGCT 360
 CGTTGCCCTG CACAAGATGC ATACAGAAGC GATATCTTCC ATCGCAGTGA TGAACACCA 420
 55

GGGCATGCTG CTCGGGAACA TCTCTGTGAC AGACGTCAAG CAGGTTACGC GCACCTCGCA 480
 5 GTATCCGTTG CTGCACAACA CCTGCGGCGA TTTCATCAGC GTGATCCTCA ACAACCGCGG 540
 CCTCGAGATG GGCAGGACT CCTTCCCCAT CTTCACGTT TACCCCACTT CGTCCCTGGC 600
 10 CCGCACGGTC GCGAAGCTGG TC 622

(2) INFORMATION FOR SEQ ID NO:988:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 674 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1607UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:988:

GATCGGTGCC CGACCTCCG CCGATTCTT CGCAGCTCG TTGCAATGT TGGTATOGA 60
 35 CTCTGCTTC TTCATCCAT CCACTCCGT CCGCGGCTG TCAGAGCTC GCTTGGCTGC 120
 GCGGCACTC GTACCTGCT GCGTCTCTC ATCTCAATA ACTATCACTT GCATCCGTT 180
 40 AGTAGCTGCA CGGTGCAGAG GCGTGTAAAC CTCCTCTAG CCTTCAAAA CCGCCACCA 240
 CATACTTCT CGTCTCGAA TCATGATTG CCTGGAAT CTTCAGCTA GCACTAATTT 300
 45 GGTCACTAAC TCGCTCTTG CCGACTGGAA TTGGTGGTC AGATGGTGA GTCTCATGTC 360
 GTCCATTCT GCGATGTTA AATATGGGT TTCGAAAAA GCGTGTCTG CCTTGACTG 420
 50 ATGCTCGACT CACAGAGAC TCACAGAGC TTGAACGCA GCCAGGAGC ATTCTGTCA 480
 TACCAGAAAG GCGCCACGGC GAGAATCAG ATGATGTTG CATAGTCGG CAGCAAGAGT 540

GCTCCAGGCG TCGGGGTCCG CAAGCGCAGA TCCAACAACG CGTGCCACAG CATCAACAAGC 600
 5 GGTATAGCAT GGCCTCCCCA ACGATTTCGC AGGTGCGCGA CTTCAGCAAG TATTCCCGAC 660
 CTGGCCCGGTT ACAG 674

(2) INFORMATION FOR SEQ ID NO:989:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 733 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1608RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:989:

GATCAAAACC ATCACCAAGT TTATTCATGA AGTGTCCGAC GATTTCAGG TCATCATAAT 60
 35 CGACGCAATT CGTACTTTGT CGCTAAAGTT CCCAGATGAG TGAAGAATA TTCTATCCTT 120
 TTTAATIGAC ACTTTGAAAA GTGCAGAGGG TGGGTATACA TTCAAAAATA ATATGGTAGA 180
 40 TGGCTGTITT GACCTGATCC AACATGTACC TCAGTCAAGG GAACAGGCTC TGGAACTTT 240
 GTGTGACTTT ATTGAGGACT GCGAGTTCAA TGAAATCTCA GTCAGGATCA TTTACTTATT 300
 45 GGGTAAGGAG GGGCCCTCGA CAGAAAAGCC TTGCGTTTAC GTTAGACACC ATTACAACAG 360
 AGTTGTCTTG GAAAATTCOA TCATCAGATC TGCTGCTGTT AGCCCATTTG CCAAGTTTTC 420
 50 CTCTCGAAG AAAGATCCGT CGTTAGCTTA TTCCATCGAA AAATTGCTAA AGGGTATCCA 480
 AACCGATGAG GATGACGAAG TGAGAGACAG GCGAACCAAT CTAGTAAAGC TCCTTGAGGA 540
 55 GAACAAGGAA AAGCCTGGTG TTGCCGATGA ATTTATCCAG CCAAGCATA GTTACGATCT 600

ACTTGCCCTG GAAAAGTAA TTAACGAAC ATCTCCACCA TAATGAAGAT GGCTTTGCCA 660

5 CACCATTGA CCGGTGAGC ATTCCAAAGT TACACAGAAG AGGAGCTCAA GGCTATTAAT 720

TTGAAGCAGA AAC 733

10 (2) INFORMATION FOR SEQ ID NO:990:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 723 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1608UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:990:

GATCTGGCCA AGGATAAAGG TGTTCATCAA GTCAATTGTA ATGAAGGCGG CAGCCTGTGG 60

35 CGCCTTAGTG CCATTTCGTA TGTTCATTC TCTGACTTCG TGGGGCCCGC AGGTGAAGAA 120

CGAGATCAGA TCCAGCTTCT GTTCATGGT GGTGATGATC TTGGGGAAGG CGACTGGAC 180

40 GCCGATCTTC TGGCACTCCT CGACAGGCTC CTCGGGGCTC ATGTGGGACA GTCTCTCCTC 240

CAGGCACAAC GAGAAGGTA TAATTAGATC GCCAGGGGAG TACTTGTGCA TCCACTCCTT 300

45 GATCTTCAAG AGGTGCTTGT TCTCTTTTCT AATGTAGTCC CGCTCCGATA GGTGATCAG 360

GTAGATGGAT GGCTTGGGGG TTAGCAGGAA CATCGAGTTG ATGAOCTCCA CCTCCTTGGT 420

50 GCTCCAGGAC TGGTTTGCGA CTCTCTGACC CGACTTCAAA AGCTCGATAA TGGGCTTCAC 480

CAGCTGGGCC TCTCCTTCT TCTGTTTCAC CTCAGGGGAC TGGGCGGCTC TCTTGGTGAT 540

55 CTTCTCCACG GCCTCCAGGT GCTTCTCGC GAACTCAATG TCTTCAAC GCAATTCCGT 600

GTAAATGATG TCCAGGCTC TGACGGGGTC GAGTCACCC TCAATGTGGA TGATCTGGC 660

5 GTCTGGAAG CAACGCACGA CCTGGTAGAT CGAGTCCACA GATCTGATGT GCGATAAGAA 720

GGC 723

10 (2) INFORMATION FOR SEQ ID NO:991:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1609RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:991:

GATCAGACGG TAATGGGGCG CATGCTGGCG CAGGTGGAGC ACGTATCTAG CGTCCATGCT 60

35 CTCTTGCTGT GGTGGGGCGG GCGGGGCAAG GGUCTGGCTG CGGAGAAAT AAGTAGGCA 120

TCTGTGGGC CGGGCACCA GGGCAAGGG GCGGGGCAAC AGCGCGTTT GCGCTTAAT 180

40 CGGGACAAAC GCATATAAGT AGAGGCTTAG GGGCTGCTG AGGGACGCA GAACACACAC 240

AAGGACCAAT GAACAGATT ATCAACTTC AGGAAGGCAG CGGCAGGCT CTCAGGAGC 300

45 ACAGCATCTT CCGAGATGT CTGGTGTCCA CTGCTGAAA CGGTCCATCA GGACACCTTG 360

TAGTGGAGTA CCGGGGCGAG TCTACAGCG TGAGCTGGG GAACTTATG CCTGTGGAGG 420

50 CTACCCAGAC GGTGGGCAAC CTGATGTAA TCAAGACGA GCGGGGATC GTCAGGGAGG 480

GGGACCTATT CAGGCTGGG ATGACAGACC CAGATGCTCC CTCGGGCTG GACACAAGT 540

55 GGTGGGAATA CTGCCACTTT CTGAAACGA ACATAACGCT GGGCTGGAT GACGGGTGT 600

CGCACGTGGT GCTAAAGGGC ACCCCGCAGG TGGAGCACAT GGGCCCTGGG CUGCUGGGGC 660

5 GGCACAGGGG CTCACGGTA CGTGTGGTTG TT 692

(2) INFORMATION FOR SEQ ID NO:992:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: PAG1609UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:992:

GATCGAGAAG ATTTGGAGAA GGAAAGCGTC TTGGTGCTAG CCTGTGACC CCTCCCGGG 60

CTGGAAC TGC GCGATATACT ACATAAAATA CGTTATCCCT GGAATTTGTA GCATTAAAGG 120

ACTTATGGAC TATTCTGTAT AACTGGGCTT CCGGCTGACA CCGGTAGCAA TGCCAAACTC 180

ACTGCGAGGC CTGGCTGCTG GGGCAACAAT CGGACTCAGC CGGACCGGAG CCGGCGAGTC 240

ACGTGCCCCC CGCATTGGGG CCCACATCAC TGGGTTTGCC TGGCTTGGGC ACCCGGCAC 300

GCGACTCCGG GCGCGGCGAGC CCCAGGTGAT TCTAGTTGCA TAGGAACTA GCCTAAATC 360

45 ACGTGAATGA ATGGGGGGGC CACATCATA CATGGGACAC GACCCCGACT ACCCCCCCCC 420

CGGCGGGG CGGCTGCAC AGCAGCGTA TAGGGGCGAG GGGCAGTGG GTGGGGGGC 480

50 TGTGAGAGGG CGCATGGGCG CCGATGCTGC ATGGCTGCGT CCGTGTTCGC GAAGATGTGG 540

AGGCACGTAC GCGGGCAGCT CAGTTACCG AGTTACCC TTCTCTGAT TAAATTTGGA 600

55 CTGAAACTTA AAAGCOGTCA GCAGTGGCAA ATCCACGGTG AGAATAATTA CAGGTAACAG 660

CGGTGGACCA GCTGCGGAAC TAGACGACGG GTTGGTGTGG CAAGCATAGA AGGTATGTTT 720

5

(2) INFORMATION FOR SEQ ID NO:993:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 731 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1610RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:993:

GATCAATTTC CTTTGGTATA GTTGGCGTCC CAGGCTCGA GATAGCCCCA CATGATAAAT 60

30

TGCTATGCCA CATGATGTCC TGGTGTGCAT TGTGTGCAA ATTGCTCAA TCAAAAATGA 120

AACTACCATC ATCTGGTTTC ACTTTCAGTA AACTATCGTT TTCTCTGTT GCAGGGTGA 180

35

AATCCATATC ATCCCGTAGA TATTCTATGT ACAGCAGAAA CGAAGCTTC TCTGCTGAGT 240

TCAACACTG AGCTTCGTTA GCAGCAATAT TTACAATTG ATGCAGCTTG CCCTTCTTAT 300

40

TAGGCGGCAA CAGTGTAGGG ATATCTAAGT CAGCTGCAA GTCCCTATTC ATGATAGAAA 360

GCTCAGCTCT CAATGAAGTT AGGCGAGCTT CAGTGGGAAC TTGGGCGAAC TTCTTGATA 420

45

TGTTTTCTAG AGCAATCACA AACTGCATCT CCGAGCGAA GTAATTGCC TTCAAGATTT 480

TGATTTTATG TTGGGCTGAT AACTGGAGG GCTCAGGTT ATAGATGTTT GCTCCATGCC 540

50

GAGATGCTT CGGTTGTGG CTCTTCTTTA AATCATGGA CGGAGACTGC GTGATGCTAC 600

CACTTCCATG CTGCTCCAAT GATTGCTGAT CCTTATACGA GTGGAGTGAC GTGCTGGATC 660

55

GAGAATTCAG ATCCAAATTA GGCATAGAGT TTGTGTATTC CTCTAGCTTA GCACATGCT 720

TATCTTTGGG C

731

(2) INFORMATION FOR SEQ ID NO:994:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 729 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1610UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:994:

GATGATCTG TACAGAGCCG TTACAACAGG CACTGTGAAA AAGCAATATC GTTACTTTTTT	60
TGCAIGTCAG TTTTTCCTC GAGCCTGTC AGCGGAGGA ATGAGTAATG GATACTTTGA	120
CGACAGAAA AGTGAAACT TTGAGCGGAC ATGCAACT GCTGTTAGT AGCAGCTAAG	180
CGCAGTTAG CACAATGGCG CCAAGGATA CGCGGTGTC GGAGACTCT ACGCGTCTC	240
GCTATATCAA AAAGGCAAG ACTTTAGAGA ATGACATTGA GCTACAGTC GTGAGCCAG	300
CCACCGGGA GTTCCCGAG GACCAACGG AAGAGGGGA CTACCAGGAG ACGAGGTCA	360
AGAGGGGGT GAAGGGGGG CACATCTGA TGATGGGCT GGGGGGAG ATAGGCACAG	420
GGCTGTTCAT TGTGATTGCA TCCCGCTGC GGACAGGGG GCGAGTGGG TCGTGTTCG	480
CGTACATCTT CATCGGTAG GTGGTGTACT CGATCAGCA GTGCTGGG GAGATGGGA	540
CGTTCATTCC TGTGACTCT CGGTGAGGT ATTTTCAAAG CGTTTCTGT CGCCTGGTT	600
TGGCGTGGCA AAGGGTATA TGTACTGGT CAACTGGGG ATCAAGTTTG CTGTGAGCT	660
TTCTGTGGTT GGACAGATCA TACAGTACTG GACGAGCGC GTGCCAATCG CGCGTGGAT	720

TGTGATTTC

729

(2) INFORMATION FOR SEQ ID NO:995:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1611RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:995:

GATCCATGGT GGTTGCGTTC ATTAACTGTA ATTCCATTGA TATCTGGCT ATGCAGTGGT	60
GGAAAGCTC CTCCAGGCCC TCTATTTTGT TATTCACTC CAAGTACTCC GCGAGCTTAA	120
AGGTCAACGA GAGCGACCTT GGATTGCACC TGACGGGAT CTCAAGGACC TTCTGTGCT	180
CGTTCTGTC CACAAACATG GGGTAGTTGT ACCATATCTC CGGGCAAAG CACATGTGCT	240
GCACAGCTG GGGTGCACG TATTCCAGC GCTGGGCGAG CAGGACTTGG GGCAGGTCCA	300
GCTTGTGTC CAGCTCCAC TGGATCACT TGTCCAGAT CTGCAGCTGG TACTCATCGT	360
ACTGACGGG CGCAGGCAGG TTCTGCTGTG TGGCTGGTT TAGCTTCGTG GGCAGGAGC	420
GGGCGAGCC CTGTGTCAGG TTGAGCACT CCTGGTACAG CGAGCGGCA TTCATGTAGC	480
TGGCGAGAG CTCTCCGATG AACTTCCGG CGGTCAACTG GTTGAOCTCC TGCTCCCACT	540
GGGTGTATT CTCCAGTAC CGCTCCAGC ACTCCACTGG CAGGCACAGC AGGCGCTTGT	600
ACAGCTTGG CAGAATCTGG ACCGGCTCT GCTCTCCA CTGCTCACC GCTTCCACT	660
GCTCCA	666

(2) INFORMATION FOR SEQ ID NO:996:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1611UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:996:

GATCTAAGG ATGGGTGACT GCTGCCGGTG CTCACAGCAG TGGCAGTAG CTAGTAATGG 60
 TGGGAAATGG ATCAAAGAGG GTGGTCTGG CGGTACAGGC AGAAGCAAG CCCGCCGATA 120
 CAAGTTCAG TTCTACAAGC AACTGCAGTT CCAGGGTACG AGGTACCAGG TGGTGAATTG 180
 GCGGCGGTAT CTGATAGAGC GGTACGGGGA GCGCAAGGGG GCGACGATCA GGTGTTTGT 240
 CAAGTGCATC CATGGGAAA TCAACGACGA TGTGACAGG ATCAGCGACG AGCGGGTGAC 300
 GCACGGGGTG TCGAAGTGG AGAAGTCGAA GCTGTTCCTG CTGCTGGTGA CGCTGTGCA 360
 GCGGGCGGGG CCGGAGTACT GGCTGGACAA GACGAAGGG TGGCAGAGCC GCGGGCGGG 420
 AGACGGCGCG CGGAAGAGCG ACCAGGTGGA GGAGGGGGG AGCGGGGGG GGCAGAGCT 480
 CGTCTGCACA CTGGTGGAGC AGATCATGG CGAGACATC ACGGAGGACT ACGACGAGAG 540
 CGTGCAAGAC GAGAACTACG TGTCTCTGTC GATATGGGG AACTTCATGG AGGGGTGAT 600
 AAACCACTAC CTAGAGAAGG TCT 623

(2) INFORMATION FOR SEQ ID NO:997:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 708 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1612RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:997:

20	GATCCATGCG ATAAATCTCC TAGTGGTGIG GTTTCACAGC AAGCAGCTTC CGTGGTTCTC	60
	GTGGTTTTC CTCAGCTCT GTTCAGCTT GATTTGGTG TTTTGGGGA CGTGGACCAC	120
25	GAGGTGGCGC GAGCTTGGC ACACGTTTTT TGAGGGTCTC ATAGATCAGG AACCTATTAC	180
	GGTGGGGCT GAGTCTCCT ATCATGGCAG TTCTCAGAAC AGACAGCAGT TTGAGATGAA	240
30	GGACTTGGAG GCACAGAAAT AGCTTACATT ATAAATACGC TTGAGATCAT TCTAGCGCCA	300
	CGTGAGACT GATCATTGCT AAATAGCAAT TTAATAAGT AATATATCAT ACGCTGGTTA	360
35	TTTGGGATGC AGGACTCGA AATAGTCTGA CAATATGTA CTGTTAAGTT ATTTATTTTC	420
	AGAGGGGTA TCTGGCTGA AACCTGTTC AGTCACAGC AGATCCAGCA GCTGAATAC	480
40	TGATTTTTC GTATTGTTAC CTGGTGGACA GATCTCCAAG CCACCTCCA ATGGCTGCG	540
	CAGCTGCAGC ATTGCTACG TAGACTCCAG CCTAGTGACA AGATGATCCA ACAAGGATAT	600
45	CCAATGGTAT TCGTGTCTT GGCTCAGCGC TTTATCAACC TTTTATCAC GAGTCATATG	660
	TGTGGGTAGT TGTAGACAC TATTGTGAT TTCGATCAGA CCGCGGTT	708

(2) INFORMATION FOR SEQ ID NO:998:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1613UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:998:

GATCAAATAG ATGTGCGCTG CCACATAGGA CCGAGTGGG GCTAAGCTGT GTGTTTAAAC	60
TGGAGGCAAC TGTTGGACTC CTGTGTGAGC AATGGGGCC CAGCTGGCG AACAAAGCGAC	120
TATATAACAA GCGAGGAAAC CACCTTGTGA TAGGCAAGG GACCAACGAC ACAGCAACGA	180
CACAGCAACG ATGGGGGACC TGGGGCTCT TATTGACTTG ACGGGGATAT CCGAGACGGG	240
GTATGAATCG AGGAACCATC ATAGGATGAT ACAGGGGGC AAGGGCTCT ACGGGGCTCT	300
GCTAGTGGCA CAGGCGATAC TGGGTGGTT CTAATTGTG CCGAGGACT TTATTGGCT	360
CTGGTGCAC TGCCTGTCA TGGTGGGG AGACAATGCT ATCAAGAGC AGTACGAGGT	420
TGAACGGCTG CCGAAGGGGA GCAACTTGC GCACCTGTG GTGGGGCGT ACCAGAAGGA	480
CAAGGAGCTG TTCACAATGC AGATCATCTA CCGGGGGAC CTGGCAAGC AGCGGACAC	540
GCTGCACCGC AAGGACAACC TGGGGCTGT GAGCGGTCC CACCTGGAG AGCTGGCAC	600
GCTATGCAGG CCGGATCTAC TGTCGAACG TGAGAACCTG CAGGCGGTGA GCGGTCTTC	660
GAGACGATA AGGGGCTTAA TAACATTCTG GAGGGGTTC ACAACAGTC GTCCAGTAC	720
AGGCTGGCTG GC	732

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(2) INFORMATION FOR SEQ ID NO:999:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 727 base pairs

55

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1614RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:999:

	GATGGGGGG ATGGACCGT GCTTGGACG CCTTCTGGG CACGGGGGG CGTCTTGGC	60
20	CGGGTGCAG GAGCAGGTG ACGGGGACTA CGGGGGATG GAACAGTTG ACAAGTTGCC	120
	CGACACGATC CGTGTGACA AGTTGGTCAC GTATATATGG CGGTGTGTG AGCGGTCTG	180
25	CGGTACCGG CGGAACCAGC AGCGCTGCA TCTGAAGAC ATCATGCTCT TGCGTGTGTA	240
	CTGGGGGAG GGGGGGGGC ACGGCTCTT GTCATGGG ATGTTTCAG CGGTGGGGC	300
30	ACGCTACGG GTGCAGAGC TCTCTGGA GCAGGTATG ATCATCATG ACGCAAGTT	360
	GGGGGGGCA CAGTCATACT TGATGATCC GCTGGAGGG AAGGCAAAG CGGCATCTT	420
35	CAGGGGGGG CGCTTGCTG ACACTATGG GCACACAATA CCAACATTG CGAAGCGGG	480
	GAGGCTGGG CTGGCCCGT TCTTCACTC GTCACGAAG CGGGGGGTG CTGAGAAAT	540
40	CTTCAAAGAC TGGTCCATCT ACTGGACAA ATCCATATG CGAGGATCC CTGATCACTC	600
	GGCCAATGG ATTCTGGCT ACGTCCGCA CTCTGCAG CGATGGAG AATCCATCTT	660
45	TGAGTATTTC ATGCTCTATT GGAAAACCG AACAGCAAC CACTCCAGG ACAACATTTT	720
	CCACACC	727

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(2) INFORMATION FOR SEQ ID NO:1000:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs

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(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1614UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1000:

GATCCTTTTC ACCAACAGCT GTCTGGGCGA GCTGGGGCCT GGGATGAGCT ACAACGAGGC	60
AGTGAAAGCG CTGACGAACC TGGGCTGGA CAGCTTTACA CTGCGGGGGA CGGTGGGGTT	120
TCGGCTGAAC AACGTGTACT CTGTGCGGGT AGAGGAAGGT GCTCAGATGG AGCTGCTGAA	180
GGGTAACTG CAGCAGTTGC GGCAGGAGCT GGCACGGCG CTGCTGGACC GTGTGTATGG	240
GGGAGAGAAG GCACAGCCCT CGAGTTCTG GCTGGCCTTC ACAAGGGCGA AGTTTATGAA	300
CAAGGCGCTG TAAGGCGAAA TAGGTACGTA GCTGGGGGCG CCAGGAAGTA TTTACAAAGT	360
TGGCTGTATC GCTACGAGGT TTTGGTGGCG TGTGCTTGT TGGAGCGCAC GAGGAGTTCA	420
AAGGCGAAG CTCGAGCTG TTCCGGTCTT TTCAAGATCG CGTTCACTC AATGCTGAGG	480
TGGTGTTTT TGGGCGGAA GCGTTGATC CGGCGCTGCA GGTCTGTGAG CGCTGGAGG	540
ACAGGCTCAT AGTCTGCATC TTCTTTCAAG CGCTCTTTGT ATGTTTGAA GACTGAGCG	600
ATGCTTGA TACCGGGCTC GACTCTGCTG ATCATCTCGA TGGCTGGCG CAACAGCTGA	660
TGGGGTGGC TGTGGGGTT CGGTCGCTA ATCATCTGCT GGATTTGCTC ATGGGTCAAG	720
CCCGAT	726

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(2) INFORMATION FOR SEQ ID NO:1001:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs

55

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1615RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1001:

	GATCATTCAG CTGGAGTCA GCGACTACT GTTGGACCCC ATATTCACGG TCCCGAGGT	60
20	GCAGAACGAC ATGGTGGAGA TTCTGGGCGA GTATATGCTG GAGTGGGGC GCGGTAACA	120
	GCAGGGTTTC CATGAGCTAT GCGGCATGTT CTACATGCAG CTTTACCGCA ACGGCTAOCG	180
25	GGACGGCATC CAGCACACCA CGCTACATAT GTTCAAGGAG TTCATGGCAG AGGTAGCTGT	240
	GACCTTCTAC GACGAGGGAA ACCTCATCGA GTGGAGGAAG AACAGTTTG AACCGATACT	300
30	TGACACGGG TTGCCAGGCT TGTACGAGCA GCCTCTAATG CACCATGAGC TGGACAACTC	360
	GATATGGCTC ATCGGCTGGA GCAGGCTGCT CTTTCTCGA GAGTTGAGC TGGAGTACAC	420
35	GCFTTGCTTG TGGATCACC TGCTGACATT TAGATACCCA GTATCCACG TGGTAGCAGC	480
	CATTATCGTT GTCTGTCTGA CACTCATTGT ACAAGAACTG CATTCCTGTG AAGACCACGG	540
40	CGACCTGATG TCTATTCTAC TGCCTACCC TCTTGAAGC TGCTGAGGC CCCAGATGA	600
	TCCGCTCCGC CCGAGCGCTT CTTGATCTGT GCTCGCCGA ACAATATGAA GACATGCAAC	660
45	TCACTTGGA TTCACTAATT AAGTGCACA ACGGCGGCTG GTTC	704

(2) INFORMATION FOR SEQ ID NO:1002:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 706 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1615UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1002:

GATCTGGTTA TTCTGGACAA CATTGCCGAT AGGACTGCT CCTGCTTTGT GTGAGGAGAC	60
GTGCTGTGAC TTAAATAAG TAAGATGAAA CGTCAGCCT ACGTGGGGC CCGTTTTTC	120
AGTTTGGCAC GGAGAGGGTA TCAAAGGAGG TGAACACAG CTACGTTAAT GGTTCGTATA	180
GCATGCTTTT GAAGCCCTTA GCTTCAGAG CGCTCCGACC ATCCAGCCA CCGGCCCCCT	240
ACGCCCAAGG CCAGCTCCCG CAATACGCCA GCGCGTGGG CCGTTTTTCG TAAGTATATA	300
TGGCGTGGCC GCGCCCGCGG GCGGAGGTGG CCGGTGGAC AATGGCTTCT GCACTTGACA	360
AGCTCCCGCA GCGGTCACT CGCTGCAGA GCTCAGCCA TAGACAGCTG CTCGCTCTGG	420
CGCAGGGGCT GTGCATCCT GCTCTGTCC CGTCCCTGCA CAGGGCCAG AGTGGAGGG	480
TGTGGTGGT GGGGGGTGG CTGGAGTACA CCGGCGGCG GCACTTCAGC GCGCATGGCG	540
CGCGGCTCAT GGGCTGGAC CTGGTCAGG TGCTGTGGA GTGGAACTT GCAAGCCGA	600
TCAAGGCTA CTGCGCGAC CTGATGGTG ACCGCACTT GCGGACAGT AGCTCCCTGG	660
CGCGGGGCT GGAGCCCGC ACAGAAGCCG TGGCGGCTT CGTGA	706

(2) INFORMATION FOR SEQ ID NO:1003:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 687 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1616RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1003:

10

GATCTGCTTC AAGAGCTCCT TCTGGTAGGA CGAGCCCAGG ATGAAAATCT TGGAGACGGT 60

GACAGGGTCC AGGAACGGCT TGAACAGGCG GAATGCGGCG GAGAAGCCGA ATGGCCCGTT 120

15

GATCATGTAG AACCTGCCCA TCGCTCGCG GTAGTAGTTC TGGCCGATGT TCGAGGCTC 180

GCGCAGTAG CTGAGCACT GCGCGCTGC GGAGATGGAG ATGCCCCTGA GGTCTAGGAT 240

20

GGTCAGGAC GTCTGACGA GCGAGTGGC CTGTCTGGAG CTGGCCGCCA AGCGGTACCG 300

CGAGAAGGAC TCGTACTCCC ATATCAAGTT CTTCAGCATG CGCTCTCGG TCGTGATCTT 360

25

GTACATCTCC GTCAAGTTCA CCGCGCCAG CTCTCGATG TACACCGGC TCCCGTCTT 420

GTCGTCTTG TGGTAGTACT GCGGTAGAA CTGGCCACC AAGGCTTTT CCTCGTAGTG 480

30

GAAGTCTCG AAGATGTGT CCACCGGTT TTCCTTAGC CACTTCTGC AGTTCTCAA 540

CATTGCCCGC GCAGCCGCC ACCTTGAAC TTGGCGGCC GCAGAAACG CAAGAGCGT 600

35

GAGTGTCCA GACGCTTGT GAATCGGCC TGCTTCAGCA CCTTGGCAG CTCTCCAGC 660

GCGGCTCGG TGCTCGCTC CGTCAGG 687

40

(2) INFORMATION FOR SEQ ID NO:1004:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 685 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1616UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1004:

10 GATCACCTTT TGGCAGGAAC GGCACAGAAA ATCCATTAGC CGATTCTGCC CGTTCAATTTC 60
 TGTACGAATG GGGAAATGAC TCGTCCCAT GGCACAGGTG ACTATCGCAT TTGGTTTGGG 120
 15 GGGCGTGATG CCCAGATTTT CTTCAGAAA GCGGCCACCC TCGGGATAG GCGTTTACCT 180
 CACATGAGGC GCAAGGAGAC AATAATGGCA GAGCTGCTTC TTACTTCATT CTCTACCCCA 240
 20 CTAAGTAAT CGATCGGACA GGCACAGTCC TACGGTAATC CTCTGAGATA CCAGATTGGG 300
 TTGCATAATG ATCTGCCCTA CAGGGCGGTG TTGTGTGGAG CCATATCTC ATGCAAGATC 360
 25 GCGATGCCCG TGACGATCCA CCTTCACCAT TTACTCGTTT CTTTTTCATG TTTTCAAAAA 420
 GAAACGAAAA GGTGAGATAA AAAGCAAACA TTACTACCGA CATTTAAAT AGGTGATGTC 480
 30 CAGGACTGTA CCTCATTGTG GCGCTTACA GCACCAGCAA TGCTGTGTC ACCCTTGTG 540
 CTGTTTGACT TTTCACAGA CAATCCGAAC ACAC TGCCC GGAATACGA CCTTCAGTG 600
 35 GCGGAATCT GTGTGCTGG CCACGGGGC AGTGGCAAGT CATCACTGTT TGCTCGATG 660
 GCTACACGA CTGGAGAGTG GCGT 685

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(2) INFORMATION FOR SEQ ID NO:1005:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 703 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1617RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1005:

5 GATCTTGACA CCAATOGACT TCCGGAACGC CTGAGTCAAG GCTTGGTCT TGGATAGCTC 60
 CAACGAGAAT ATCTCTGACC CTGCCATGCG TGTGAAGGCG ACATCTGCGC CCAGTGACTG 120
 10 CGACAAGCCC ATGCGCAGCG CCGTTTTCGC GGTGACGGC GGACCAGCAA CCAACACGGC 180
 CCGCCCGGCA ATGTGACCGT TCTGCACCAT TTTGAGAATC AGGCTTGGG CCTCCGCGC 240
 15 CTGTAAGTGG CCCACCATC CCTGCGAGCT CGGCTTAGGC TGTAGGTCT CGTCCAGTCC 300
 CAGGCCAACA ATGTGCGAAT GGTGCGCAAT TAGCGACAAG GACTTCAGAG ACATGTCATG 360
 20 CGCCTCTGT GTTTGAATCG ACATATTATA GATCTTTGAA ACTTTGAAAC CGTCAAGAGA 420
 GTCCAATGGC CTTTGTGAT GACCGTCTAA CTGTTCAAAC GGTGTGCAA CATACCAAAT 480
 25 TTGCGCGAG CCGAGGACT AAAACGCATG TTATACGAAG TCAAGAAGAA GCATCGTTTG 540
 AGCTGCTAGC AGTTCTTGA CTCTCAACTT GGTGCGAGCG TGCGGTGTGA TGCTTCGCAT 600
 30 GCGAGAGTAC ATATGTGGT GCAAGCCACT TTGGAACCTG TGGGCTAACG ATGTACGCAT 660
 CACCGTGAAT GGAAGCGGT ACTTGGTGAC TGGGCTCTC AGT 703
 35

(2) INFORMATION FOR SEQ ID NO:1006:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1617UP
 55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1006:

5	GATCAGTTTC TCGAAGAATT CATGTCATGC AGAGAAATGG GAAGCAATTT ATGCTCAGCT	60
	CCCTCCCCCT GTTCTCTTTC TACCGCCAGG CCATGCAGGC ATGTCAGGCG CTCAACACAC	120
10	CTAGTGACAA ACTCGCGGTT GTCTTGACAG CCTATGCGTT CGTAAATGTT AAGGCCATCC	180
	GATGTTGGAA GAGGTGACAG AAATTCCCGC TGTAAATTCT CAAAGAAACT GTCCAAGGC	240
15	GTATCCTTCA CAAAGTCGGG GCGCGGCTGC AGCACATCTT CCAGCTTCTT CTGTTCCCC	300
	GAGGCGTTGC TCATGCTGTG GCGATTGCA CTTCCTCAGC TGGGCTCTG CAAGTACGTA	360
20	ATTTTAGCTA TCGAAAATTT TCCCTCCTGG CGATGAGCTC AGAAGTCTA CATACTGATT	420
	GACTAAGACA CTTGCCACCC GTTTGGGGCT CATGCCACTA CACCAAGGAC CTCTGGACAT	480
25	CGAGGATCAA CTTGCCATCA TTGGGAGGC CGGCATAGGC GATCTTGACA GCTCAAGCA	540
	AATCTTTTTC GAGTTCATCG ATCCAAAGCT CCGCCATCG TGCAGGACC CAGACAGCT	600
30	CTGCAAGGCG CTGCACATGG CTGCGGCCAA CGGACAAGGC GACGTGGGCC GCTAACTGCT	660
	CTGGCTGCTC GAGCCCGGCG CGGGAAGCGA CTGGGG	696

(2) INFORMATION FOR SEQ ID NO:1007:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 360 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1618RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1007:

GATCGGGCGT CCGGAAGAGC AGCTTATGCT GAAGGGCTAC CTAAAGACA CAATCCCCC 60
 CCCCCCAAA AAAAAAGCA TGAGACTCTG TATCAGTAGG AAGTCTATCG CATCTTCTTA 120
 TTTAGCCTGT ATATGTCTT TCGCGTGTA GACAKTGGT TGGACGAGTA TGCTCGATGC 180
 GGAATATAAC GTACTTTTTT GAAGAGTAAT ATGGACTTTC GACCTGCAA GTACCGTCTG 240
 CCGTTCGGT GTCAGACACT CATCGGAACG CAATTGTTC GCGATCAGG TATGCTTCTG 300
 TTGTATGCTA TGGTAGCTAT AGGGTCTGGA CGCTATCCA GAGAGATATT ATCCATTAA 360

(2) INFORMATION FOR SEQ ID NO:1008:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 637 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1619RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1008:

GATCAACAAT GTGCGCGGC TGCTCTGTT CCGCGCGGC GGTGATCTGG ATAGCTACGA 60
 GCTCTCGGG ATTCTGTCG ATACAGGCG CCGCGGCTG CCGCGATCA TGACACCTT 120
 CAAGAGTAC ACCGGCATG AAGACTTGA GTACACGAA CCAGTGAAT GGGGCCAGTA 180
 TGCGCTATC CTCATGATG CCGTCCCGT AGTAATCATG CTGCGCACT ACTGTCGGT 240
 TGTGGTGTCC ATCGCCCTTT TCGGCTCTT GTGGGGGTTT TCTGCGTGT CGATGTCAT 300
 CGCACTTGT AGCGCGCGA TGTTCACAA GATTAGGAC ACTCCCTAG TGGCTCTGTC 360
 CCGTGATGC AATTACGTC AGTACTTGC AATCAGGAG CAACAGGTT AGTTGGGGT 420

GGAAACTCAA ATCATCTCCG TCATATATGG CACCCTCAGC GCAGGAGTGG TACTACTTGC 480
 5 CATTGGCACC AAAAGCATCA GAGCTTACTA CATCAAGTAC AACTATAGCA TGCACGGGGT 540
 GGTGCACTTG TGTGTGTCCT TGGCCGCAAT ACTGCTTATC TATATCTCCT TGGCCGCCCT 600
 10 GCTCCAGTTC TTCAAACCTGA AGAAGTTTGA GTATTCA 637

(2) INFORMATION FOR SEQ ID NO:1009:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDELNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1619UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1009:

35 GATGCTTGC TGGAGACCAC AGATTTTCTA GGGTGTGCGG TAAGGGGAG ATGGCGTGA 60
 CAACCAGGA GGAAAAGCTC ATGAAGCTGA ATCCACAGC TACAGATGG AACAATTACA 120
 40 TTAATACTGA TACCACTGG AGCAAGCCCG CTCACCTTC GTCAACAGAG GCTGGACAGG 180
 CAATTGAACG AGAAAAAAA CTAGACCGGA GGCAGACTGA GAAGGACAGT GTAGAGAGCA 240
 45 GCAAGGTTGA GCGCCCGTA GTAGATGCAT CGTAAGTAGG GTGGAAGCAA ATGGCGGGT 300
 GGGAGAGGG CGACCGACTC ACCGAAGATG AACTGCCTG GGAGCTTGAC AGAGAACTT 360
 50 TTATAAGCA TGTGCTGCTT GCTGCTGGT ATGGGACTG GTATCACTCC GTGGGATAT 420
 TCTTCTCGG CGGATTTTGA TGGTTGGGT TGGCTACTT CAAGTTCAGT TTATCACTG 480
 55 TATTCTTGT AATGGTTTGA ACGCTTTTC TATACCTAC ATCGATTGG AAGTACAGG 540

GGTUGATAAG GGAAGCTGTG CAGAAGGAGC TCACAGTGCA GAAAGTAGAG GATGACTACG 600
 5 AGAGCATGGA CTGGCTCAAT AACTTCTTGG ATAAATTCTG GACCAGAATA GAGCCCAACA 660
 TTTCGGTGAT GGTGTGGAT CAGGTGAACC ATGAATTGGC TAAGAACCGT CTGTGCCGGG 720

(2) INFORMATION FOR SEQ ID NO:1010:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1620RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1010:

GATCAAACTA TTCTTGTTT TGTGGTGA AGCATACTTT GTGAGTACT AACTTCTTCG 60
 35 CTCCACTCCA TAAATTGCTA TTCCCTATTG GGATTAATT CCGGACCCAA GGTAACGACC 120
 AAAAACATTA GAGCAATAGA TCCCCACACA AAATAGGCCA TAACTCTACC ATAATCATAAC 180
 40 AATCTTTTAT TGCCATTATC GAGTGGAAAA TTCTTTGCAA GGCTGCTTTC AAGCAACGAT 240
 GAGGGGCTAG ATGCCAAGTT TCCCAATTGA TATGCCAGGC CCACGAAAAA GGTTTTOGTG 300
 45 TCTGAGTTTG GAGCTAAGCA GTGTAAATGA TGTGGGACAA GGCCCCATGC TCCTTGAACA 360
 AAAAAGTGTG GGAAGAACAC GGACACTATA ATACTTCTAT CATGTACAAA TCCCCACGGA 420
 50 TAAACAAGAC AGGCAGCCAA CAAAATACAC ACGAGGATAA CAACTCTTCT AGAGCTTATG 480
 CTGGAAAAAC GTGAATGAA AAGTCCACCT ATTATAGCAC CAACGTGGC TGCACAATTT 540

GTGACGGCTG ACTGATTGGG AGAATAACCA AGTTGTTTAA TGACCATGGT TGGAAAGAGA 600

5 TCTTGAGACG CATGAGAAAA GTAATTATAA CCGTCATAA GCAATATCAT GTAGATGACA 660

ATGT 664

10 (2) INFORMATION FOR SEQ ID NO:1011:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 727 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1620UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1011:

GATCAATAA AAATAGAAAT TAGCTTAATG GTAGAGCAAT CGTTTACAC ACGAATAATT 60

35 TGAGTTCCAT TCTCAAATTT CTAAATAATA ATTAACAATA ATTAAATTT GGGTAAAAAT 120

TAATAAATAT TAACGTATAT AATAATATA TACTTTATAA AATTACTCAA TGTTATTAAT 180

40 AAATTTATTT CTATCATTATAAATGATGT ACCTACTCCA TATAATATAT ATTTCAAGA 240

TTCACTACTA CTCATCAAG AAGGTATTTT AGAATTACAT GATAATATTA TATCTATAT 300

45 GTTACTTGTT TTAGGTTTAG TTCTTGAAT AATAATTATT ATTATTAAAG ATTATAAAAA 360

TAATCCTATT CTTTATAAAT ATATTAAACA TGGTCAAATA ATTGAAATTA TTGGAATAT 420

50 TTTACCAGCT ATTATTTTAT TAATAATTGC ATTTCCATCA TTTATTTTAT TATATTTATG 480

TGATGAAGTT ATTCACCAG CTATAACTAT TAAAGTTATT GGTTTACAAT GATATTGAAA 540

55 ATATGAATAC TCAGATTTTA TTAATGATAA TGGTGAACT ATTGAATATG AATCTTATAT 600

AAITCCTGAA GAATTATTAG AAGAAGGGTC AATTAAGAAT GTTAGATACT GATACTAGTA 660
 5 TTGTTATTCC TGTGATACT CATGTAAGAT TTATTGTTAC AGCTOCTAGA TGTATTTCAT 720
 GAATTTT 727

10 (2) INFORMATION FOR SEQ ID NO:1012:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 665 base pairs
 15 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1621RP
 25

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1012:

GATCCACCCA CCGGTACCTC CTACTGGGC GTATCTGGGT CTOGTGGGG CTGCGCGCTG 60
 35 AGATGCTGTG GGGCCGAAT GTACTCTCAA ATGGGCTTGT TCAGTGGCCC ATACAGCTCA 120
 TTAAGCTCAG TGGCCCCGAT GCTTAGTAGT AGCTGGGCG CTCTTCATAC TGCTGTCTTG 180
 40 TATTATTTCAT CTTCCTGTAT TTTCTCTCTG TGTCGCTCA CGGCTGCAGG GGGGACTGCC 240
 TGGCGGGGGC CGGCTGTCTT GCTTTCTGCT CTGCTGTGAA AATGACAAA CTCACAAAAA 300
 45 TCGAATTGCG CGGCCCCGAC AGTTGATTAA GCTGGGGCAT CTCTATTCTC TATAAATTGT 360
 TAAATTAACC ACACTGTGAA GCGCTGCAAT CCGCAGCGC CCGCACTCA ACTCTTGGTC 420
 50 ACAACCTAGC CCGGGGAGTG CAGTCTCACA AATACAAGC CTGGGATATC ATGTACTGAG 480
 GCTCTCTGAA CGTTTTGCTT TTTTCTAAA ATGCTGTTC ACAGTCTTAG CGCAAAAAA 540
 55 ATAATTAA AAAAAAATGT AAAGTCTTAG TGAAATGAAA AAATAAATA AAATAGACCG 600

CCAGCTGCAG AACACCTCTT CAAAGCATAT AACTAGCATA CGCATAAACA TATGCTTGTGTA 660

TACTC 665

(2) INFORMATION FOR SEQ ID NO:1013:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1621UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1013:

GATCTCTTGG TTCTGCGATC GATGAAGAAC GCAGCGAATT GCGATAAGTA TTGTGAATTG 60
 CAGATTTTCG TGAATCATCG AATCTTTGAA CGCACATTGC GTCTCTGGT ATTCCAGGGG 120
 GCATGCGTGT TTGAGGCTCA TTCTCTTCTC AAACCTCTGG GTTTGGTAAT GAGTGATACT 180
 CGGTGGTAAG ACAAGGTAA CTGAAAATG CTGGCCATGG GCGGAATTG CCGGACTGC 240
 GGTCGAGCT AGTTTCTACA CTGGGTATTA GGTTCGACC AGATCGTGA GTGGAGCTGG 300
 CGCTTGAAGA ACGTAGACA AACAGGCTT TCAGGGGAA TAGTATCCC AAAGTTTGAC 360
 CTCAAATCAG GTAGGATTAC CCGCTGAAT TAAGCATATC AATAAGCGGA GGAAAAGAAA 420
 CCAACGGGA TTGCCTTAGT AACGGGAGT GAAGCGGCAA AAGCTCAAT TTGAAATCTG 480
 GGGCTTCGG CGTCGAGTT GTAATTGAA GAAAGTACCT TGGTCTAG TCCTGTCTA 540
 TGTCTCTGG AACAGGAGT CATAGAGGT GAGAATCCG TCTGGGGGG GTGCTAGTGC 600
 CATCTAAGT TCTTTCGAG AGTCGAGTG TTGGGAATG CAGCTCTAG TGGGTGGTAA 660

ATTCCA

666

5 (2) INFORMATION FOR SEQ ID NO:1014:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1622RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1014:

GATCCGIGIA TTTTITATTT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60
 TTATAAAAAA TAATTAGTGC ATTGTTCAT GTTCATTAAA GAATGATAT TATCAAAACC 120
 ATCAACTAAT TGTATATAT TTATTAAATA TTAATTTCAC TTAATTAAGA ATTAGGAAC 180
 TTATCTATTA GTCTGGGCTG TTTCCCTTTT GATTATTAAC CTATCGCTA ATAATCTGAA 240
 ATATTTAAAT TTAGATTAA TAAATATTTCT GAGATTTAAT ATTTTAAATA AAATAAATAA 300
 TTATTCCTA AATAATATTA ATAACATAC CATATATATC TAATATTTAA ATAATCATAC 360
 TAACATATGT TTGTAGAAA ACCAGCTATT TGCAAAACAG ATTTGACTTT CTCTACTTAC 420
 CATTATTCAT CAGATAATAT TGCTACATTA ACCGTGTCAC TGGTTTTTAT ATTTTATTAT 480
 ATTTTAAATA TAATAAATAT ATATTTAAT CATTTGATAA TAGTAAGATC ATCTGCTTTC 540
 GGGTTAATTA ATATTAACTA AATTTAATTT ATTTTAATTA ATTTTAACAT TGTAAATAT 600
 TTATATTAAT TTAATAATCA TTTTITATTT TAATATTAATG CTAATATTA TTAATGCTG 660
 ACCATTATA CAAAAG 676

(2) INFORMATION FOR SEQ ID NO:1015:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1622UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1015:

GATCCAGTTA CTTAGTAGAA TGTAAAAATT AATAAATATT ATTTATTAAAT ATTGGTTAA	60
CAATAAAATT CAATAATTTA TTAAATAAT GATTAAATAA TCCTAATATA AAATTATTAA	120
TATAATGAGA TATATATTTT TAAAAAGAAAT ATATAATTAA ATAATCCCAA OCAAAATTTG	180
TGCCAOCAGC TCGCGTAAGA CAAAGGGGGT TAGCGTTAAT CGTAATGGCT TAAAGGGTTC	240
GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA	300
GTAAAGATGA AATAATAATT ATATCAATAA GACTTATAAA GTGAAAATTT AAATTATATA	360
TTAATTGACA TTGAGGAACG AAGCCTAAAG TAGCAAATCG GATTGATAC CCGAGTAGTT	420
TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAAT TAAAGAATAA ATTAAATGAA	480
AATTAAAGTA TTCCGCCTGA TGACTACGTT AGCAATAATA AAAATCAAAA CAATAGACGG	540
TTACAGACTT AAGCAGTGGG ACATGTTATT TAATTGATA ATCTCTGATA AATCTTACCA	600
TTTTTTGAAT ATTTAATTAT AATAATTTAT AATTAATTAC AGGCGTTACA TAGTTGTCTT	660
CAGTTCGTGC TGCAAAGTTT TAGAATTTAT CATAAAGAA CATAACTCTA AATATTTT	718

(2) INFORMATION FOR SEQ ID NO:1016:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1623RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1016:

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20  GATCACAATC GCATGGTATG ATCGTTTITAG AATCAACGAA ATATGACAAA ATGAAGGAAC      60
    ATATTGOCAT AAGGACTTCA GGTATTACAG TCGCAGATAT TCTATCGAAG TCCACTGAGT      120
25  ATCGTTTITAGT ACCTATACCA AAAGAACAAT TTGAACAGAT TAAAAATGAA TTAGAGCATC      180
    CAAAGTTTAC TAGAGAGATG ATTGTTGACC ACGCTGGTGA CTTCGACTTA ATTGCAGTGG      240
30  AATTAAAGGA ATACAATCGC CTCAAAAAGC AATCGCAGTT CTCCTTTGGT GACATTTTGG      300
    ATAGCATTA A CACTGACGAG GAAAGTGAAG CATCTGATTT TGAATATCAT GATGACGAGA      360
35  TAAAGCAGCT TAACAAGACA GCCAAACGCT TTGGGTTTAT ATGTATTCCA GAAGCTGGGT      420
    TTATCGCTAC TTCGCTGGCT AGCAGCGCTG ATGTGATAAA TGTCGTGTGT CTACCAATAA      480
40  GCTACTATAA TAAGTTGATT GCGAATGAAG CAAAGAGCCT CGAAAAGCTG ACTGACTGGG      540
    ATCTTCAGTC AGAAGCTAAA AAAGCTGGCT ATCATATAAA TTTCAGCTTC CAGAAGGAGG      600
45  ACGCCCCACC GCGGCTTCA ACCTATGTC CTCACGGAT GCGGAAGTTT TCCCCAAAC      660
    CGTTCGACTT TGTCAGTAGA CTCAAAACT ACTAGAAGGG CGTTTAATGA GGCTGCTACT      720
50  GTGCGCGCAC AGAGCGAATT TGAACAG      747
  
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(2) INFORMATION FOR SEQ ID NO:1017:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 758 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1623UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1017:

GATCAGGGCA AAACACATCT GTATTCCCAG CAGCATGTCC TOCTCCACTT GCGCATGGC 60
 CTGGCTTGCA AAGCGGTCCA CCTGGCGGTC AAATGAAATG CTGTCCGAA TATTCTCCAG 120
 TTTCGCAACC ACAGGGTTCG CGTCTCGTC GACTCTGTGT TCTCATCTCT CCTCACTGC 180
 CTGCTCTCCG CCGGGCACTT CCCACGGCCT AATGCTCAGC TGCGGAGCCT CCTGGGGATA 240
 CCGCTCCGGC AGCGTAATGT CCACCACCAA GTGCTGCTCC TTGCTGATCG CAGCGCGCGT 300
 GAATGAAGAG CTTCGCCAGG GGATCAGATC CAGTTTTAGG TCCACTTCAA ACTGGATTIT 360
 CCGGTACTCC CCGCACCA CACTCAAGTC ATCGGCATAG ATGGACTCAA GCACTTCCAG 420
 CTCTGCTTTT TGCTCTCTCT GATAGTCCAT AACTATCCGC TCGACCAACT ATGAGCCCTAC 480
 GCGCAGCTTA GGGCTAGACC GTTACAGCTG CAGGTGAACG TCGGGGGAC GATGCGCTAT 540
 CGCTGGCGAA ATTTTTCGCC TATACCACCA CTTATGTTAC CCGGTCTATA GTGCTGCTCT 600
 CCGACTTCAC TGATGGTCTT GTCCCGCGGG GACTGCTGCC TGTGCGGGC AAATCCCTAC 660
 CGCTCTGAAC GCTCGTTCCA TCTCGCTCAC GGGTGAACG AACGGGAATT GCGCGCGCGG 720
 AGAAATCTTG GCGAACCATG CTGCACTTAG CCTTACTG 758

(2) INFORMATION FOR SEQ ID NO:1018:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 690 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1624RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1018:

GATGGCAAGT CATTTTACCT ACAGGCTGGG CTTTGAAGA AGAGGCTGC ATGGTACAT 60
 GTGTAAGCA GGATCCACG TTGTACCAAG TTGGCCAGAG AACCGAAGCT GCATGACCA 120
 GTTAGGGCA AGTACAAGG CGAGCTGGAT ATAATGACG ATAGATTAAA CAGAACACA 180
 GAGAGTACA AGACACGGC TGGAGTTCC GACCGGCAGA CGGCGGGGT GCACAAGCT 240
 TCTAAGCTC GGTTTATCGA GGACAAGCTG CGGTGGCTGT TTTTCAGCA GCATCCCTG 300
 GAGCTGTGC GCGGAGGT GCTGTGAG AGCATGGGAA ATGAGCAGTA CCACTGGTG 360
 CGATGTTC AGCTAGGCAA GCGCTTGAC GGTGAGTCTG TGGTCAGG GACCTGTAT 420
 CTGCTGAAGT CGGGGCGCA CCGGAGATG CTGGGGCAT ACGACAGGC GGGTTTGAG 480
 TTCTATGTC TGAGGATCA GAGGAGCTG GAGGAGCAA TAGGGTACA GGAGGCCAG 540
 ATGGTTGGG CTGTGTCAA GACAACGCT GTGAGCAG GTCTGCAGCA AGACAGAAG 600
 GTCTGACA AGTGAAGGA GGAGTGGT GCGGGTTC AGCTGATGC TCGAAGAAG 660
 AACTCTACA AGCAGTCTG GCGGAGGC 690

(2) INFORMATION FOR SEQ ID NO:1019:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 742 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1624UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1019:

GATCATATAT CTCTCTGTGG TAAGGTCTGT GGGAGCAGC TCTCTGCGG GAATCAGCT	60
TGTCOCATGA COTGOCACGA TGGTAAGTC ATGGATCAT GCTCTGTAT AACTGAGCAG	120
AAGTGTGCAT GCGAACAGAG GCGTTCTCT GTTCTTGCC AGTTCCCCA TTCCCCAAT	180
TGCACTGCAA AATGTGAATC ATGATGTCT TGTGTGCGC ATCGGTGCGC TGAAGATGC	240
TGTTCCGGTA GACCCCATTC TGCAAGCG AACTCTAGC GCGCCGTGA GATCCAGAT	300
GATGAATCTG AAGTTGAGC CCAGCACGTG TGCTTAAAG ATGTGAATCG GGTCTGCTT	360
TGTGGTATCC ACATGTGCAA TTACAAATGC CATGCAGCA AATGTCTTC CTCTTAGAA	420
TCAGATTUCA ATGAOCTTAT CTGTCCCTGT GGTAAACAA TGTACACAG CCGTGTCCGT	480
TGTGGACAA AGCTCCCTCG CTGCATCAT CCATGTGAA ACTGCTGCT GGATCTTGG	540
CCCTGCGAC ACAGTCCACC TTGCATAAT TGTATCCCT TAGATGAAC TTGCCCCCA	600
TGTACCATCA CAGTCAAGAA AACTTGTGTC TGGGTAAAA ACGAGATCAG GACATTCTC	660
TACAATGATG ATGTGTGTG TTGAGACCG TGTAGAAGC CATGTCTTA TTGCAATCAC	720
TTCTGCCAAG TTCCCTGTCA TT	742

(2) INFORMATION FOR SEQ ID NO:1020:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 725 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1625RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1020:

GATCAACTAC GAGGACTTGA CGACCGCAGC ACGGAGCTC GGGGGGGGCG TGGCCACTTT	60
GGAGAATATG TAGCGCACAA CATCAGCAAT GTTACAGTAC AGAGTCTAT CCGTGGGGTA	120
CGGCTATGAT GAATAGAAAT ATATACACAG CTGGCTGCAG GCAGCTTAGA AGGCGAGAGG	180
CTTGGGCTTC TCCACGAGT ACTCTGGTT AGTGAAGTGC CCGTACGAGG CGGTAGGTAG	240
GTAGATGGGC TTGGCGAGGT CGAGCTCTTT GACAAGAACA CCTGGTCTGA GGTGAGGTT	300
GTTCGGGATG ATCTGATCA GCTCGTGGTC GGACTTGGTG CTGGTACCGT AAGTCTGAC	360
GTGGATGGAC AGGGGCTGG CAATACCAAT GGCGTAGGCA AACTCAACCT GCACAGGCTT	420
GCACAGGCGG GGGGCCAACA GCGACTTGGC GACCCAGGCG GCAGGCTAGC CAGGCGAAGC	480
GTGACCTTC GAATAGTCTT TTCCGAGAA CGCACCGCCA CCGACCGCGG CGGCACCGCC	540
GTACGGGTCA ACAATGATCT TTCTACCGGT CAGACCTGCG TCACCTTGTG GCCACCGATC	600
ACGAAGCGGC CGAAGGCTGC AAGTAATACT TGGTGTITTC GTCTAGCATG TGGCGAGGA	660
TGACCTTGGC TACGATGCGA TGGGCGAAGC CGGAACGCAG GTCTCGGTC GAGATGTGTT	720
CCGGG	725

(2) INFORMATION FOR SEQ ID NO:1021:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1021:

GATCTGGCTC TGGGCCATCC CAAACAACCT GGGTGTGAC AAGAGTACT ATGATGAGCA	60
CAAGAAGGAA TGGGCCATGT ACCAGGAGAT GATGAAGCAC TATGCCAAGC AGGACCTTGT	120
CGACACCAAC ATGCAGGGGG GGTTTATGGT CGGGCGGCA CTCCAGGAA TAGAGCTGGA	180
CAACTTCAG CTCGGGTCT ACAAGGAGCT CGTAAGTAGC ATGTTCCCT GACTTCATGG	240
AGTCAGCAT CGGCCATGTT TTATGCCAA TACTTTTGAG ACTATACTTA TATTATATAC	300
TGATAAACAA TTTCGGGCGC TCTCTCAGC CCACTACTTG TTCTCGGGT AGAAGAAGTT	360
CACGGGCATC AACTCGAGGT TCTTCTGGC CGCAACTCG CCACACCCA CAGGGGGGCG	420
CTTCTGGTG TAGCCCCAGT TCAAGGACT CTCAGGGCG GTGACCTCT CCTGGCTCAG	480
TTCTAGGCC CGGGCTGCC GAAACAACAA CCACACGTAC CGGTAGGCC CTGTGCCGCG	540
CGGGGGGCA GGGCCATGT GCTCACTG CGGGGTGCC TTAGCAACA CGTGGACAC	600
CCGTCATCC GAGCCAGGG TTATGTGGT TTCCAGAAAG TGGAGTATT CCGACCACTT	660
GTGGTCCGAC CGGAGGGAG CATCTGGGTC TGTCATCCC ACGTGAATA GGTCCCCTCC	720
CTGACG	726

(2) INFORMATION FOR SEQ ID NO:1022:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 643 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1626RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1022:

GATCGTGGG GACCATGGGC AGATGGGGCC CTTAATATAA GGGCTCTCTC GCAGGCATGA	60
CGTCGCGCAA CTCGACCAT TCTAAATGGC CAGCTGCTGC TTGATGGTA GGGTCGGCGG	120
CTGGGCGAGA AGTAAATATA GGCATTAAAT COOCTTCTAA ATATACATTA CATACCAGCG	180
CTCCAGAGGC GCTCCGAGG CGCTCCGAG GGGCCCCAG TCTGGCGCA GGGACGGCGC	240
TGGAGCTGG COOCTTGGCC AGCAGACAT GGGGGCGAC GGGGCCAGT TATATACAGC	300
CTGGCTGTC TCATATGCAG ATGGGTCTGA GGGAAAGAAG TTCTCTCTC TGGAGAAGC	360
AGTCGTGTG ACCCTGGGC TCGCGGCCA ACGGGCAGC AGAGAATCTT CCAGCGCTTC	420
CGCGGACCC GCACTGGGG TACCGTGCA GGTAAAGATA CTTCGGGCGC GCGGGGCAC	480
CACCGOCTC AGCTGACTT GGGCAAGGC CATAGCGAGA GGACCGGCT GCTTCGGGC	540
TTTCGTGCT GTGACGTGA TCTACCGCC TGCTCAGCC GCGCTGTCA ACGATGGCA	600
CCAGACCTC CAGAGGTGC CTTCGTGCC AAGTCGGAG CCA	643

(2) INFORMATION FOR SEQ ID NO:1023:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1626UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1023:

GATCCATGCA TATTGGGAA CTTACGAAA AAGGCGTGAA GAGGCGGAC GTAATCTAGG	60
TTTGAAGAA TTAATGAATG ACAACATAGA CCTTGTTACA GGAGAAATA ATGAAGAAG	120
CCAGCTGAAA CAAAAGAAGT TGTTAGAGGA GCAGTTGGCA AAGTTGGAGA AATCAAAGGA	180
AAGAGACAAA GCACGCAAGG CCGCGAAGGA GAAGAGCAA GATGGCAAAG TCGTGAAAGT	240
AAAAACACC ACGGACGCT GCGCAACATG CCGTGCGATC GGCATATCA GAATAATAA	300
ATCTGCCCC ATGTACAATG GTGGCGTTGC AGCAAACGA AACGCAACG CGAATGGGTC	360
GAGTGACGA GCTGCAGGTT CTTACGGAT GGCCTCAAAT AATAGGCTA CCAGCAAGTC	420
TATACTCTT AATGCCAGTA TTCCGCGAC TTCATTGAC TAGCTGCAG TATAATATAT	480
ATCTAATATG TACCAATGT ACTTCTTTG ACTGCIATAG AACTTTCTC TCTTCTTGA	540
TCACATGTG AGCACTGCAG CACCGTGGC CTGCAATAC TTATGGACG CGGCAAGGTC	600
GGCTCGTAT CCAGCGTAG CTATGTATC TCGGGGACC TTATCGTGC GCGACAGGG	660
ATAGTGACA GACTCCACAG AAGTGTCTC TACAATGCAG AAGA	704

(2) INFORMATION FOR SEQ ID NO:1024:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1627RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1024:

5
 10 GATCTTCCTT GAATTACTT AGCAGCTGT TAATTTCCTG CTTCCTCTGC TCTCTAAGCT 60
 GGAATCTGTA AAAGTCTGTC TTGGCCCTCT TGTCACCAT GCTGGGAGGC TTCTCCTTCC 120
 15 GTGTATGCTT AAGAAGTGGG TTGGGGTTCG GAATCTTAGC CCTTATGGAG TTTAAGCAAT 180
 TTGIGTCTTT CCTACTACA AGTGTGAACC CGTCTCTGTC CACAATACTC GATTGAACCT 240
 20 CATCTGGGC AAGTTGTTC CGTTGCTCAA ATAACAACAT ATGCTGTGTA ATGTGCTGC 300
 GCAAGTACTC AAGGTGAGT GGCTTATAGA AGCTCTGGAA GGTGCTATC GAAGGAGACT 360
 25 GGAAGGCCCA CTCACCAAT TCCTTTTGTG TTGGGGCTGA TTGGGCGAGA GCAGGCCAGC 420
 AGTCTCCAG AGATGCTGG TCACAAACT TCAACAGAGC ACTGTTTCTC GGTGTATACC 480
 30 TTCTGTCTC CGCATCCCCG GTGTCTCTGA AATGGGAGT CAGGCGACCC AAATCCACT 540
 CGTGCAATCC GAAGTGTG TGATGTAGCA GCTCTGCCAC ATGGGOCACA GTCTGTACT 600
 35 GCGGCAAAAT CTTGCCAAG CTCTCCTTGA TAGAGTCGAC CTGTGTCAAC AGAGGTAAAT 660
 TGACAATAAA CAGGCAATTA GCTCCGATT CCACCTTCTG CTGATGCTTC CTC 713
 40

(2) INFORMATION FOR SEQ ID NO:1025:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 50 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1627UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1025:

5 GATCTTTGAG ACGGGGCTTG GAGAGTTTAG AGCAGATTGT TGACCAACGC ATAGCAGATG 60
 CTAGACCTGA GTCATACACC CTCGGTCTTG TTGGAGACAC GGAATTGCTA AATTCAAAAA 120
 10 TAAAGGAGGA GGCAGATGAA GTGATTGAGG CTATAACGOC AGCTGAAC TA CAATGGGAAG 180
 TTGGGACTT GCTGTATTTC CTCATGGTGA AAATGAGGAG CAATAATGTG ACTTTAAGG 240
 15 AGGTGGAGC CAACCTAAAC ATGAAGCACA TGAAGATTAC GAGACGGCTT GGAAACGGCA 300
 AACCAAAGTA CCTACCGGCG CAGGAGTGGC AGAAGAACA GGAACTCTT GTAGATATTG 360
 20 CACCATCTGC CATTACTTTG AACGTGTAT CTCAGATGA TGAGGCGGCA TTGAAAACAG 420
 CAATTACAAG GCCAATCAG AAACTACTG ATATATTAGG TCTTGTGAG CCTATAATAA 480
 25 AAAAGTGAT AGAGGAGGCG GACAATGGT TGA CTGAACT AACAGCGAGG TTTGATGGAG 540
 TAAAGATAGA AACACAGTA CTAGAGGCTC CTTTGGCGA CGAGTATTTA AAAGGATTAA 600
 30 CGGAAGACGT CCGTACGGCC ATAGATATTT CGATGGAGAA TGTCCGTAAA TTTCATGCCG 660
 CACAGCTGAG AGACGATATT CTCAAGGTG AAACGCAACC GGGGGTGGTA TGTAAGAGAT 720
 35 CCCGAGGCCA TAGAGA 736

(2) INFORMATION FOR SEQ ID NO:1026:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1628RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1026:

5	GATCTGCCCC TTTAAGCAAC CACATATTAA GCGCTGACA CACAGACTGT CAGCGCTTAG	60
	AAATACTTGG GTGAGTGTTC AGAAGCCCCA GCGCTGGAG TTATTCAATG TCAGTGATG	120
10	GGTATTGACC TTGGATCCA CAGACAGGCG GAAATATGCA TATATGTAAG CCAAGATGCC	180
	GGCAACCAAT TGGTCTAACT GTAATGCATA ACACTGTATT CCGCGAAGCG GCTCTGAGCA	240
15	TGTATGGTAT TGGGCGTAG ATTGTGAGC CAGGTATATT TCACGTGAC GCGCTGATC	300
	TATTTACAAC ATAATCACTA TTGACGAGCA AGGATAGTGG TCGCAGTTA CGAAAAGAA	360
20	ACGTTGAAAA ATTTGGATGG TGTGATGAG GTAGAGATAT TAAAGTTAAT GGGGAGCAC	420
	GAAATTGGTC GAAGTTCTAT ACTGCCAAG ACGTTGCGAG ATTGCTGAGT TGATGGGTTT	480
25	CAAAGTATT AAAAAGGCGG TAGTCCCTAA ATTATCGGAA AAAGCCAAGG AGAAGAGTT	540
	GAGCACTTGG GCGTCTCTG ATTCTACTTT AGAATCAAGT TCATCTTCTT CGTGGAGGG	600
30	CAGCTCCAGC AGCAGCTCTA GTTCTCCGG ACAGTGAATC GAGCTGTTG GACAGCGCT	660
	CCAGCTCTTC TAGCAGCAGC TCGAGCTCTT CCGGCGAATC GGGCTCC	707

(2) INFORMATION FOR SEQ ID NO:1027:

(i) SEQUENCE CHARACTERISTICS:

- | | |
|----|----------------------------|
| 40 | (A) LENGTH: 733 base pairs |
| | (B) TYPE: nucleic acid |
| | (C) STRANDEDNESS: single |
| 45 | (D) TOPOLOGY: linear |

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- | | |
|----|-------------------------|
| 50 | (A) ORGANISM: PAG1629RP |
|----|-------------------------|

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1027:

5 GATCTCCAC ACTAGGCTGG GTCTTACTGT CCATGAATAG CATTGGAAGA ATGGAGGAAT 60
 CGGTCTTCAA GTCAGCGGGG AAATTTTCAG GGCATATAA TGGTCCCAA GTATTTAGAA 120
 10 CTTCTGACT GTGTCAGTA CTTGGCCCTT TTAAATGGC TGTTCCCTT GAAGATATAC 180
 ACCATTCAAT CCAGTGTATC GTACCCGAAA AATTAGCAGT AATGCCACTT GGAACATCAT 240
 15 CCGAATCGT GTAAGCACTT GCAATACTG AAAGCTTTGT AAGAGAGGTA AAAATCGGTG 300
 CGCGGTTCC AAAATGTCC AATTGTGAGA TTGTGTGATC TTCATTAGGC CTACTGGCCA 360
 20 GTCCACTAG TGATCTAAG GGCCTTATTT CAGTGGTAG AAATTTATCC TTCTCAGTTT 420
 TGCATTACA AGCAAACTCA GTGAACAAAG GGGGTATCG ACGACAGCT CTGTGTGTAAG 480
 25 CTGCTGAGT TTTCCTTGT GAAATAACAT GTTCTTTAGT TTCATGTAGG GCTCCAATCC 540
 ATGCGGTAA CTCTTTATAA CTGGTTGCTT GGAAATTAAG AGTACCAGAG TTATTAGAAT 600
 30 ATTCTTCTG AGGTGAAGAA GTTAATGGAG AAGAGATAGT CATTGAAAG CAGTATTAC 660
 GTGCTCTTC TGGATGGTC ATGGCACTGA GTAATAATAC TCCAATCTG TCGTTTCTT 720
 35 CGACTGCAGT TTT 733

(2) INFORMATION FOR SEQ ID NO:1028:

40

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 742 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1629UP

55

EP 0 866 129 A2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1028:

5	GATCTGGCT CGCTGCTGC GCTGAGCCC TACTGGGCAG AGCGCTACCC AATAACAAC	60
	GCCTAATCG GCGTGCCAG TAAATTGCAC AAGCTCTACT CAACCGATTT TGGGCCCATC	120
10	GTCGCCGCCA GGACTTTCCG CTGGAACCTC GTGACAAGC TTGGACCGCT GAAAGACCTC	180
	ATAATGGCAA AGGTCAGCG CCCAAATTAA TAGTCACGTG TACATAAAGG TTTTCCTAAT	240
15	AGCTATACAG CTGCCCCCGG TCTCAGCTT GCAGCGGCA ACGGCGTGC AGCCATGAGC	300
	GTCTACTCG AACTACCAT TGGGACCTT GTAGTAGAC TGGACTACAA GACATGCAGC	360
20	GCGGAGAGCT ACAACTTCTT CAACTCTGC AAACTCGCT TCTAGACTG TCAGTCATC	420
	TAGGACCTCC ATCTGAAGG CTCAGCAGC CTCGGGATC CACAGGTGG CTTTGCTATC	480
25	CCACGGATT TGCTGTACA CAATACCTCG ATCGAAGGC TGGGACAC ACGGGCGTC	540
	ACCCGAGC TCATTGAAG CTCGTTGOC GCTCAACCG CAGAGCGCTT CGGACAGTC	600
30	GCCTTTGTG TCAAGCCCCG CACTGCGCTG CTGGGATCA ACATACTGCT CGCGCTAAT	660
	CCGAACTCG GCGGCATC AACACAGTC GCTTGGGCA GGTATCGAC GATGCGTGG	720
35	CAGTTCTCA GCAGCTCAGC GA	742

(2) INFORMATION FOR SEQ ID NO:1029:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 692 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1630RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1029:

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5      GATCGACTTT CAAACATTAT TATACAGATG GAGGGCATCT CACATCTTGC ACAGCAAGAC      60
      GGCAATCCAA CAGGTTCTGT AATGCAGCCT AAGAGGGGAA GGGTTGAAGA TGGAGCGTCT      120
10     AGTGATGGAG AAGTAAGAGG AGAGATAAAG CGCAAGTATG GTATTGGGCG GCAGTTGATG      180
      GCCAAGATGG GATATAAGGA GGGCAGCGGT CTAGGGAAAG AAGGTACGGG ACGCACGTAAG      240
15     CCGATATTGG TATAGCAGCG GCGGCAGGGC ATGGGGCTTG GAGCCAAAGT CTCATTTC      300
      TCTGACTCAG AGCAGAGTGA GGTGGAGCTT GTGACTGGCG AGGCAGTGAA GTTTGAATCG      360
20     AAAGGTGTGG AGACTGACAC AAGCAGAATA GCAGACAAGA TAGCAAAGCT GGAGATCCGA      420
      GGAGTGCAAG TCCCGCAGA AGTGATGAGT TTGGTTCTG GGACAAAGAC GCTGGGTTAC      480
25     CAACGGGCTG CAGCGATGGA AAGGGTGCTC TCGGAAGTCC TGCAGGTGGG TGAGCAACTT      540
      GCGACCTTAC AACTACGCGA AGATCACTG CAGCAAGGCG TAGATGGGCG CATTGAGAGT      600
30     AGTGACCTGT TGAACAAGIT CTCACGCGC TGCACAGGC GACTGCGCTG CCGGAGCGGG      660
      TAGGGGCATA TTGGCCTTGG AGGACCCAGA AA      692

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(2) INFORMATION FOR SEQ ID NO:1030:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1630UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1030:

GATCGTGGCC TCATGGGTGA GCTGGGCCCC AGGGGGGAAC CTGGCAGGCT GCGCGGGGAC 60
 5 CCGCGCGGGG TGGGGGACCC GGTCCAGTTC GGCGAGCCCC GTGGTCCCCG GACCATGGTT 120
 ACGGTATGCT CCGCGACAAA TGGCGAGGGG TAGATGATGC CCTCCTCCGC CTCGGGGGTA 180
 10 CCGCGCGGCT CCGCGGTGTG CGCCTCTCTT GTCCGGGCTG GCGCGGTCCC GTCCCCAGAC 240
 AAACGGTGCC CGGCGGGCAC CCAAGGCGG AGGCGTTCCG CCGCGGGTGG CCGCGGGCGC 300
 15 CCGCTCCCGG CTCGGCCAAG GCGCTTGGCC TGACCCAGTTC CTGTAGGTGG CTGTGGTCA 360
 TCGAAGGGCG TCCAAGCAAT TCGTGTAGA TGATCTATGC CAGCGGCAGC CTTGTTCACC 420
 20 AGCGCGGGCA GCTCGGGCAG CTTGGGTTTG GTCTCGTCCA TATGTGGTTC TGGTCTCTG 480
 TAGGCATCAT ACATCTCCCG CTATCTTTCT CTTGGGCTG CACCGGTACC GTGCATTGGA 540
 25 AACGCTGCTC CTGCGCGAGG GCAGTCTAT AACGTTGCCA GTGAAAATCG TGCAGTACCG 600
 AACAGTAGCT CATCGGGCAC CAGCGGAACA CATAGGCAAC AGCTTGGGTG TAGCGGGCTG 660
 30 CCGGCCCCGAC CAGGATATTC ATGTACATA GACTCACATG ATCAGGCAGC AC 712

(2) INFORMATION FOR SEQ ID NO:1031:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 729 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1631RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1031:
 55 GATCTAATTT ATTACATTA ATTAATAATT AATAATATTT AATAATATTC AATAATTTAT 60

	ATATTTTATT ATATTTAATA ATTATATAAA TACTTTAATT ACATAAATAC TTTAATTAGA	120
5	GAGTTAGGGT TCACCCCCCT AATGCTTATC AGCATTATGA GGTACCACTC TAATTAAAGG	180
	TAAATATATA TATTTAATAA TAAAAGGATA TAGTTTAATT GGTAAACTA TTGACTTCAA	240
10	ATCAATCATT AAGAGTTCAA ATCTTTTAT CCTTGTATA TTTAATAAT ATAAATTAAT	300
	AAATAATAAA TATGATAAAT CATAATATTA AAGATATTGA TTAATATTTT TAATTAATTA	360
15	AATAATATGC AATTAGTATT AGCAGCTAAA TATATTGGTG CAGGTATTTT AACAATTGGT	420
	TTATTAGGAG CAGGTATTGG TATTGCTATT GTATTTCAG CTTAATTCA AGGTGTATCA	480
20	AGAAATCCAT CAATGAAAGA TACTTTATTC CAATTGCTA TTTEAGGTTT GCTATTAGTG	540
	AAGCTACAGG TTTATCTGT TTAATGATTT CTTCCTEAT ATTATATGGT GTTTAATTTT	600
25	ATTAAATFAT ATAATAATTA ATATTCAAAA TAAGTTATAT TAGCTTAATT GGTAGAGCAT	660
	CGTTTGTGA ATCGAAAAGG TTAGGAGTTC AAATCTCTTA TGTAACAATT TAATTAAATT	720
30	AAATAAAGA	729

(2) INFORMATION FOR SEQ ID NO:1032:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 716 base pairs
	(B) TYPE: nucleic acid
40	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1631UP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1032:

55	GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGT	60
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ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCTTA AAGTATTAGG TGAAAAGAAT 120

5 ACAAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180

TAACCATGCA TTGGTAATCT ATCTAAATTA CCTGTAATAC CTAATGGATT TGATGAACCA 240

10 TGTACATGTA ATAGCATTAA ATGCATAATT ACTATTGCTG CAATAATAAA TGGTACTAAA 300

TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCCTCATAAT 360

15 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA 420

GCACCTCAAT GTGACATTTG TCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480

20 GTTAAAATAA AGATAATAAC ACCAACTGTT CATACAATA CTCTAGGTGA TTTATAAGAA 540

CCATAATATA AACCTTTACC AATATGAATA TACATACAAA TAAAGAAGAA TGAAGCACCA 600

25 TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTACAT CTCTCATAAT ATGTTCTACT 660

GATGAGAAAG CTAATTCAAT ATTAGATGAA TAATGCATAG CTAAAAAAT ACCAGT 716

30 (2) INFORMATION FOR SEQ ID NO:1033:

(i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 658 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 45 (A) ORGANISM: PAG1632RP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1033:

GATCTTCGCG CCGTTGCGGC CCAAAACCCG CAGCTCCCAT ATACCCGTGT TCAGGTTGAA 60

55 GCTGATGCTA GCGTGCTGCC GCGACACCAC TTTCGCAGGC CCCAGGTGGA TGTGTACTGA 120

CCGSTCTGTC GGAGACGTGT TCCGCCCGAT ACTCTGCATC ATGTCTCTCA CGTAGTACGT 180
 5 CCACTCTCGT CCGCATATCT TGGGTACGC CTGTACTTCC GTTGCCGTGT TCTGTGTGTT 240
 CGAATATACT TCCGACACTG TGTCTGCTC CTTGGGGCA TCCAGCACCG AAATCACCGC 300
 10 ATTGATCAG TCTGTCTCC GTTAGTACTC GGTCTGTGTC CCGCCGTCTC GTTCTACAT 360
 AACTGCTGGT GCTGCTGAGA CGCAATGGG TAATTCATCT CGTGGCTCA ATTTGGCTCC 420
 15 TCCACTGGCT GCGCCAGGT AACGTGGAC TTCGTTGCT GTGAAGGGG TGGTGGCTCA 480
 GGTAGCTCG GTACAGCTGA TCTGGTCTT AGTATCAACA AAGCAAAAT AAAAATAATA 540
 20 ACAATAAGCT TTTCAGTGTG TGTGAACGTC CCAGAACTG ATTCCAAGC TCCAACCG 600
 CACTTCTGA AGCAACTCA CGCACTTC TGAATGACAG ATCACTCA CTAAACG 658

(2) INFORMATION FOR SEQ ID NO:1034:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 690 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1632UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1034:

GATCGAGACT GTGATATAGC TGTATAAGAA GGTITGGAAA CCTAGTAAA TACCCAACCT 60
 50 TTTTAATTCG AACCTTGTAC AGGTTTATA CTCAATGTA GCTTIGAGTT GCAAATACCC 120
 GAGGCATAAA ATCAAGCGT ACTTAAAAAC AATCACTACA TACAGTCTC CACACCTGC 180
 55 CAGAGTGGAA TAACATGAAG AATAAATATT AAGGACAGTA ATGCTATAAA TACATGTGCT 240

TCAAATAAAT ATATGCTTGC TAAGGGTTTT CAAATTCGGT TTGGGGCAAA GAGTACGCAA 300
 5 TAAGTGGATC TTGGGAAAGT GATGGGGGCA GATAACGACC AAACAAGTGA GTTTCACGT 360
 TACCTATATC TTCTCTGGG ACAAAACTGC CACTGTTGAC CATGTTGTG CTAGGIGTTT 420
 10 GATGTATUGA TUGAGTATCA GCAAGTCCGG TAGAGGAAGT GGGATTAGT GAAACTAACG 480
 TCCCGGAGAA ACTGGATGCC ACACGATTGT TTGGTAGTGT GGGGGCGTG TTAGGATTTT 540
 15 TAATGTTGST TACTGGGGTG CCTGATGGCA ACGATGGGOC AGAAAAGTAT ACTTGCTCCT 600
 GTGCTTTCAA AGATGGGTCA ACAGCCCAAT TGTGAAAGAA ACTGGCATTG CTAGTCTCAG 660
 20 GGATGCTAAT AAGCTCTTGG ACAGAGTTGT 690

(2) INFORMATION FOR SEQ ID NO:1035:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1633RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1035:

45 GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120
 50 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAITCAT TTAATACTCC TCTAATTCAA 180
 TCTTAAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240
 55 GTAAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300

ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360
 5 GGIGTGTAAC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420
 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAA TAAATAATAT 480
 10 GTTATATTTA AATAGATCAA AATTTCACAA ATTTCATTT CATTAGTAG TACCATCACC 540
 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACCTTAG CTTTACTAT 600
 15 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660
 AATAACTTTA TGATTAGAG ATATGGTAGC TGAACCTACT TATTAGGTG ATCATACTTT 720
 20 AGCTGTAAGA AAAGGTATAA CTTAAGGT 749

(2) INFORMATION FOR SEQ ID NO:1036:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 732 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1633UP

40
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1036:

45 GATCTTAATT TAAAATTTTA ATTAACTATT TATAATTAG AAATATATAA TCTAGAGATA 60
 TATAATCTTA AAATCATAGG TAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAATA 120
 50 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTG TGGCATCTTA 180
 ATTTTTATTA TTAAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTATATAA 240
 55 ATAAATAAGA AATTACTTAT AGAATATTTA TTAATAGTA TTAAATTTAA TTTTAAATAT 300

AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360
 5 ATTTAATTTA TATAAATTAT TTAATTACT TCATTGATAT ATATAATTAT TAAATGTACC 420
 TTCATAATA TTTATTTTAA TTAGTCTAGT AATATTCTA TTTAATAGTC TACCCTTTAA 480
 10 TTGGATATTA CTACCTACTA AATATTACC TAATAATATA TTATTAAGAA TACTTAAATC 540
 TAATAATTTA TTATCTAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAAT 600
 15 ATTATTAATT AGTAAATTAT ATTTATTAT TTATTAACA TAATTTTTTG ATAATAATAT 660
 ATCATTATTA AATGGTAAAT TTATTAATAA TTATCTTTAA TGATTTTAAAT GATAAACCAT 720
 20 TATTATTATA GA 732

(2) INFORMATION FOR SEQ ID NO:1037:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 702 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1634RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1037:

GATCCATCTG CGGTTTGTC GACGTCTGT GAACTCTAC CAGGCGAATA GAACTCTGAT 60
 AGACGACTGG CAGGTGCTG TTGAGTGGCA ATAACGGAT TTGCATCATC TATATGGGCA 120
 50 TTCTGGTAG TATCTATCT TAGACTCGAT AGGGACCCAT GCTTTACAAG TTCAGGTTTC 180
 GCTTGGGAG CCAGGACATC CTTTCTCGA TTAGGAATG ACAAATTTGA GGAGTCTC 240
 55 CTATGCTTGT GTTCAAACTC ACCAGCAATG CTGGCTGTT TATTGGTACT CGCAGATACA 300

TTCTTGAAT GTCCATAGAT ACTCGAAGAC GGCCTTCCAG TGGGAGCTGG AACGGCCAGA 360
 5 CTGCTTTGTG CACCTAGCCC TTCGTAATCG TTTCGAGAGG AAAGCATGGA AATTCGATTG 420
 AACAACTCCA CAAACGAGCC ACCCGATTTC GTCTCTTTAT GTCTCGCTCT TATACTCTCT 480
 10 TCCGGAATGG CCGTTTCAAA AGTACGCTGC ATCGGAGATA TGCCAGGATT ACTGTAAGGA 540
 TTTCOAAGGT CTGGGCCATC AGGCTGTTTG TCCACAGCAG GCTGCATAAA TACTGTGGGA 600
 15 TAGATTGCTT TCTCGAGGAA GTGTAAGAAG CTGGTGAGTT TAGGGTTTGT GGGCCGTGTT 660
 CGTAAATGGT AATGTGCTGA TTCTCGCTT GATTCTGCAA AA 702

(2) INFORMATION FOR SEQ ID NO:1038:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 736 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1634UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1038:

GATCACAGCG TGGCCAAGCC CAGCATTGTG TCTAAGTTAC ATGTAGAGGT CGAACAGCAC 60
 45 GAGGGAATGC TTTCGCTAC GGGGAATTC GAGACCTTCA GACTGACACC GCAGATTTTC 120
 TGTGGGCTC ACCGACCTT AAATAGCTAC AGCAACACAG CTGGCCGGT GTCACTGAT 180
 50 AGCAAAGATG AACCGTCTA TCCATTGTC GGTGACTGG ATGGCTGG AGGAGCCAG 240
 CAGTCTTGG CATGAGGGT CGACGTACTC GGGGAGTCA GAGGAAAGC TCGTCAACTC 300
 55 GTATGGGCC TACAGCACCA CCGGAATCGT GATGACATCT GTGATGATGA ACAAGGCCA 360

GCGCAAGGGC GAAGTGTCCG AGCAGTGGAT GCGGCTCTTC CTGGACAGCA CGCTGTGCA 420
 5 GGAAGTGGCG GTGCTGCAGC GCGGGATGTC GGTGACGGGG CGCTGGCTTG ACAAGTTGCA 480
 GCGCATCTTG CAAAGCATGC ACGGATACCG CCAGATCGTC CCGGGCTTG CGATGTTCAA 540
 10 AGAGGCATGG AACCTGCAGT GCTACCACGG CAACGAGGGG GACTTTCCGC TGCTGAAGT 600
 GCGATCAAG GTCAACAGCC TGACCACACT GGCAGGCTG CTGGTCGACC ACGGGTGTG 660
 15 CGGTACAGC ACGGCGATCG AGCAACTCAC CACGGTGCTT CAGTACCTCA ACAAGCTGCT 720
 GCAGGGGTG CGGTC 736

(2) INFORMATION FOR SEQ ID NO:1039:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 737 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: 1635RP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:1039:

GATCTTAGGG TGGTTCATGG CACTGAGCGG GACCGTGTTC TTGGACGGT CGAACCGCAG 60
 45 CAAGAGTCTG AAGTCGCTGA ACGGTGCTT GGAGCGGCTG AAGCGCAATC GGCAGGGGCG
 GTGGATTTTC CCAGAGGGCA CGCGGTGTA CACAACGGAG ATGCAGCTGC TGCCATTCAA 180
 50 GAAGGGGGCG TTCCACCTGG CGCAACAGGC GCAGATTCCG GTGATTCGG TTGATGTG 240
 CAACACGAGC ACGGTGTTC ACGCGGGCT GGCATCTTT AACCGGGCA CGATCACGGC 300
 55 GAAAGTGCTG GAGGCGATCG ACACGGCTAA CATGACCAAG GATGAGCTG ACAAGCTTGT 360

GAGCGACGTG CAGGCCAAAA TGCAGGCGGA GTTCGAGGCG CTTCGCTACG CGCCTGCCAT 420
 5 CGTGACACG AGCCTACCG AGGAGGCGCT GCGGCGGAG TTTGTGGACT GCAAGGAAGA 480
 CATCAGGAG GTACGCGCC TCTTGAAGTA ACCTTGGTTG GTATCATATA AACGTTGCGA 540
 10 CGAGTTATGT ACATATAGCG CTGCTAAGTA GGCATTGAGT CCCACGAACT CATACTGGC 600
 TGAOCTCTAC GCGCGCGCA TGTGGGCGAG ATACTTGTG ACCTCGCCAG CGGACCGAG 660
 15 CCAGATGAG GACTTGTGT GGTGTGCTC GGGAGTAAGG TCCAGAAATG CGCTCGCCG 720
 GGTGTTTAC GGCCTTG 737

(2) INFORMATION FOR SEQ ID NO:1040:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 686 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1635UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1040:

GATCGGACTG ACGGTGAATA GGCACCGTA GCATGCGCG CTGAGCGCGC TGGGAGCGA 60
 45 TAGCAGCGGT CGTCCGAGG CTCTGGTGGC CAGGACAAG ATCCACTGGC CCACCAAGGC 120
 CAGTAGGAGG ACTGCCCACT GGACTGACAT CGTCGACACA CGTTGTGGA TGCAGAGTC 180
 50 AATTATCAAG CCGACAGGA AGCGGAGCA CGTCGAGGCA ATCCAAATT CTGGCAGCAC 240
 CGACGCGTGG CCCAACAGGC TCGACAGGA GCCATGTTG GTGAGGAACA TCTCATGG 300
 55 GCCCAGCGAC AATAGCAACA CAAGGGCCAT GAAGTACGCC GCTGGGTGCT GGAAGAAGTT 360

GCGCAGCCCG CCGCGGATGT CCTCGGCGAG CAGCGGCTCG GTGGGGCTCT GCATGCCCGC 420
 5 GAAGGTCAGT GTTGGGGCCT TGACCTTGAG CATAGTGAGC ATGCTGTGTC CAAACACAT 480
 GCAGAAGCTG ATCAGCGTAT ATCGGACAGC AAGAGTCCTG AATACAGAG AAAGGTCAAG 540
 10 GTACGGCAGG CCATTTCGAA ACCATGGTAT CTTCAGCAGC TGCGACCTTA GCACAGAGCC 600
 CATCCCGTAA AACGTGGCCG GCAGACTTAT CGAGCACAAC TTGCTGGCCG GGTACAGTTT 660
 15 TGATGCGGTG AACAGGCGAC TGAAGT 686

(2) INFORMATION FOR SEQ ID NO:1041:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 720 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1636RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1041:

40 GATCTCTTC TGCTCGATGG ACGAGCCAGT TGTATCTTGG ACTCTACGGA TAAACCCACAC 60
 CTTTTCCTTC ACGGACAGGA ACTTGGCATC GGTGGGGTGA TTGGGGTATA GATATAGGCG 120
 45 TAGGANGCT ACCACAAAG TTAGGCTGCC GATTATAATT GACAGAATTT TOCAATGTGA 180
 GATAGCTGGG TTCTTTATCA GCAGGATCAA GTAGGAAAGG ACGGCCATTG GTATGGATAC 240
 50 ACTGACCGTC GCGATAACAA AAATCGGGGC GGTGCTGCC TTTTCATTCT CTGTTAAGAA 300
 CATCAGCATT GTGTGTTC AATGAGGAAT GATAATAGCC TCGTGAAAC CTAAGCAGAG 360
 55 ACGAGAACA TATACACCTT TGTAAATCGT CATTCACAT GTTACCATCA TAATGATGCA 420

CCATATCGTC AGGAGGACGA TAACAACGTT CTTCAAAGGA AACTTCTGGA TAAACAGCAA 480
 5 GTTGATCTGT CCGTAATAT AGCCAACGTA GAATAAGGTA TTCACATTGT TGTAACGATT 540
 CAAGGACATG TTTACATCTT CAAAAAATCC TAACAGAGTG CTGTAGGACA ATTGCGCCTT 600
 10 GTCTATGTAG GTGATGAAAT TAATGCTCCG CGTCAGTCCC ACGATGTACC ACATAACCTT 660
 TCGTCAAGC TTCTTTTCTT CCGCTTCTGT GATAGGAGGG ACATCCTTGT CTTGCTTCAA 720

(2) INFORMATION FOR SEQ ID NO:1042:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 677 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1636UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:1042:

GATCCGCAAG ATGACCGAGG GTAAGGGCCA CCTGCTTTGG CACCACCGCT TAGTTTCTTT 60
 40 TGGAGGTGCA GGTGGTCAAC ATGCAGTTGC AGTGGCACAC TCATTGGGCA TAGAAACCGT 120
 CCTCATGCAC AGGTACTCAG CAATTTTATC TCGGTATGGA ATGCTTTTGG CCGATGCGGT 180
 45 AAAAGAGGAG CAAGTGCCAT GCTCCATTTT CTTCGAAGAT ACATCTTCTA AAGACCAGCT 240
 AAATGAAATA TTCCACCAAT TGATTACCAG TACCTCAATT AGCCTTCTTA AGCAAGGATT 300
 50 GCGGACGAT CCGCTTGAAT TCGAGAGATA CTTGAAGTAA CGTTATGAGG GTAAGTAAAC 360
 AAGTCTTATG GTTCTACAAG AAGGAGACTC GTGGGATTTT GTAGAAAGGT TCACAAAAC 420

CCACAAGCGT GAGTTTGGCT TTGTTTTCGC CGAGAAGAGG ATTTTAGTGG ATGATGTCCG 480
 5 TGTGGTGCT CTAAGTAAGT CTATGGTGGG GAACAGGAGC CTGTGATCA GCAGTTATCC 540
 CAGSTCACTC GTTCTACAGC TGACCCCTTCT AAGGATGCAA AGTTCTTTAA GGACGTGTAT 600
 10 TTGTGGATG GGTTTATTAA GACCACCTAT TTACAGGTAA GATAGTTTAC CGGTAGGTAC 660
 CTGTATTGAA GGACCTG 677

(2) INFORMATION FOR SEQ ID NO:1043:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1637RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1043:

GATCTGCTCA TACTGAGCGG CCAACTGGTC GFACTCCGTA TGCAAAACAT CTGTGGTTTC 60
 40 CTGGAAGTGC GCCACCTTGA GCGATATCTC ATTAAACTTG GTAAOCAGCT CTCCCAACTG 120
 ATGATTGACT GCACTGGTTT CGGTACGAG GTCTCCAGT TCCCAAGTTC TGGTGTCCAC 180
 45 TTCCGCCACG TATCCGCTGT ACAATGTATA CTGTCGTTC GCAGACCCCA GAGCAGAAGC 240
 TCGCCGCAC TCTGGCGCCA GCAGCTCAAT TACCTGAGT TCAATCTCTG TTTCAAACGT 300
 50 TCCCAACAGA GTGTCTACTT TTGCGGTAA CGAATATCC CCAAAAAGCG GAGGCAGCTC 360
 ATCGTGAGAG GAGGCACCGG GATTTGCGC TACATCCGT ATGACTGAGT TCTTCCGGCT 420
 55 CCTAGGCATG GTGCAGTTGC TGCTCAAGG GCTTCTTCC TGGTCAGGT CTGCAGTGGT 480

TOGTGCTTAT GGGCAAGCAG AATACCATGT TGAGCCGGCG AAATCTCATC ACGTGATCAT 540
 CATCTTGCAA CGGCTCGGAG GACGCTGATG CACTGTTCOA TAGGCTTAGG GGGCAATTAT 600
 ACGCTAGCTA GTTATATTGA TAATATGTAC ATGATGCCIT CGGCAGACA GGGCACTCAG 660
 TGCTGGGCGG CGGCGCCGGG CTCGGGCAAG CTCTTGCTC AACTTGGGCG TTCTGGGCT 720
 CCACGT 726

(2) INFORMATION FOR SEQ ID NO:1044:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1637UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1044:

GATCTTGCCG TCCTTCTGT CCAGCTGTAG GTCCGATGA GGGTACGCT CCGTCAGTA 60
 CTCAGCGGC AGCTGGCGC TCTCATGA CGCTCCAGG ATGAAGGGG CGGCACAGC 120
 CTGGAGGGG AGGGGCGCT GCAGAGGGG CATCTCTGT CGCTCTGGT GCATCTGCAG 180
 CGCGCAGCG CTGGCTCCA GCGCGGGTC GAAGTACTTC ACATTGCTCA GGCGGACTT 240
 GTACAGATTC AGGATGCAGC CCTTGAGCTG CGCAGGTGC AACCGGTACG CAGTCGGAC 300
 ATACTGGTAC CGCTCGTC CCCCTCCGT GAAGTGGGC CGCTCGATC CGATCGAAGA 360
 CAGTGACCT GTTGGCTGT GCGTGATCG CCCCTCGGC GCGGGGCTG CGCCCTGGC 420
 CTGTTCACC CACCGAGCC GAAACACAGT CCGTCTGAC GTCTCCCGT TCAGCCCGC 480

TCCAGTCCG ACCGGGAGC CCGCCGCTG CGAGCAGGC GACACTGCT CCTGCAGCG 540
 5 CGCACCAGC TTCATGTCT CACATGTCAG CGTCGCTTG TGCGTTGCC CCGTCGGCAC 600
 CTGTAACTGC ATCGGGTCT GTGGCTGCTG CTGCTGCTG TGGTGTGCT GTTGGGGTTT 660
 10 GCGTGTGGC CTGTGTGTGT GTA 683

(2) INFORMATION FOR SEQ ID NO:1045:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 665 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1638RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1045:

GATCTGTG CTGGAATGT CCGGACGAG AACAGACAAC CGTCGGGGC GGGCGATCT 60
 GCGGAAGCT GTCCGAAGGA GACCAAGAAG GAAATGTAA AGCTGCAGC AGCGCGATT 120
 40 CCACAGAACT CTCGTGGAA ACGGTGCAG ATGGGGACG GGGCGGACG GGCACGAG
 GACGGCGCT GCGTTCTG GCACGAGTT GGCACAAAG TTGCTGAAG CCGCAGCGG 240
 45 CCGGGGCGCT CGCAACGAT GGTGACGACC GGAAGGAGA AGTGGGTGC AATGAAGCG
 GCGATGCTG TGCCCGGCA GGGCTTGCG AAGATGCAAC GCAAGAAGA AACCGGCAG 360
 50 GCGGTCAAG GCGTGCCG GAAGCGAAG ACGGAACA AGGCACCCG CAGCCAGCA 420
 AAGAGGCTC CAGACTCCA CAGGAAGGG CATGACGAG CGAGGCGCG GAGGCGCAG 480
 55 CCATCTGCAC CGGAGGAGC CGTGAACAG CCGAGCTG GCGAGAGCA GCAAGTCCC 540

GAGGCGGCAG AACAGGGTGC GGAACACCCG ACACAGCATA TGGCGCAGAT GCAGCCCCAG 600

5 CCCAGAAGAC GCTTCTACGG CGGCAGGCAG CAGCACTCCG CTGACGGACA CAAGCCAGTT 660

TGTTGT 665

10 (2) INFORMATION FOR SEQ ID NO:1046:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 765 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1638UP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1046:

GATCTGAGAA CTA CTGTGTG TCGCTAGCG CAACTTATC AGAATTCCAT CAACTCACCG 60

35 AACCATAGCA CATCTAGTC ACCTCCCCCT ACGCTACAG ATACCGGGAA TGATCAATTT 120

TTGGTGTTT ATGCTGTAAC CATATGCCAT GATGACAAGT AACTAATATG CATGAGCAAT 180

40 GACAGTACA TTGATGTCTA CGACATGTCA GAATTATCGC CTGATTGTGA ACGCTGGCAC 240

GAAATTAGGA CTCTAGACT ATCTAGACTT AATATTGGGA AGCAGATGAT GTCCATGAGC 300

45 GGGCCAGTTG GACCCGATGA TTCCGTTTTA CTAATCAGTG TACAGCCACA CGAGCTTCAG 360

CTATGGGATT TCAAAGGCA GATTATGGTC CAAAGATATG TAGGACAGCG GCAGGTGGCA 420

50 TACATCATCC GTTGTGCTT TGGGTATGGG GACAACCTAG TTGCTGGAGG TTGGGAAGAC 480

GGGAAGATAT ACATTTGGGA TAGATATTAT GGTAATATTA TTGGGTTCT ATCTGGGCAT 540

55 AACATGGAGA GACCGACGA CTCCAGAAAT AAAAATTCC CAATGACCAA AGTTTCCAAT 600

ACTGTAGCAT GGAATCCCGT CAAITCAAGA CTATTTCGCT CTGGAGGAGA TGACGGTCTG 660

5 GTGAAGATAT GGAAGGTGA CCTAATTGA TGAATCCTAT AGCATGAAGT TATTGTCTA 720

TAGAACTTCG AGAAATCCTG CCGATCTGTT GTTCCTAAA TTGTA 765

10 (2) INFORMATION FOR SEQ ID NO:1047:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 658 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1639RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1047:

GATCCATCTG ACTATTGTTT CACGCGATTG GGGGACCAAC TGTCCAGTCA GGGCCAGGAA 60

35 CCGGGAGAAA TAAGCCTTGA ACGAGCGCTG GTGATATTA CAGTTGTCC CACCTTGACA 120

TCTTGCTCG TACAGGGTGT CGTTGCTGAG GAAGATTCTG GCGCTGTCCA AGAAACGCAG 180

40 TGTTCGCTGG TGCCACAGCT CGTCTGGGT ATGGTTGTAG ATGAAGGCAC AGCCTGCCAT 240

GATCAGCCCA TGGTGTAAAG TCCACTGCAG CTATTTTAAG TTGGTACAGT TGTGTTGAT 300

45 GTCTGTACCG TGTAGAAGA CGTGCCAGTT TGGCTGCACA ATCGAGATCA GGGCAAGCC 360

ATACATCCAG TGTAAACCC GTTCGCCCCA CTCTAAGTAT GTGGCAITCC CGGTGTAAAG 420

50 CGTTAATCGT GCGCCATGT GGAACAGGC ACCGTTGGAA ACGAGTTT TGTAGTGGTA 480

CCCGTGGTTC CAGCGGAAAA TCTGCCATCT GAGCCCGCCG TTGCAGTCT CCAATATCCA 540

55 GCGCAGGGCC ATGGTATTAA ACACCGCTG CCGCAGGCC ACCCATTCGG GCTGGTCCGC 600

GGGGGGGTTT GGGGAGTTGC GCTCCGGGGC AGCCATCACC GCCATCCCC AGAAAAAA 658

(2) INFORMATION FOR SEQ ID NO:1048:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 730 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1639UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1048:

GATGAGGGG GTGAGGGACA CGGTGCACAT AACGACTGG GACGGTGCTT GCTATGTTTC	60
CAAGTGCGGG ATTGTGACCG TCCCGCAAAG CGTGCTGGAG CTGTCTCTGA AACGAGAGGG	120
GGTGCCCCGG CGCATTTAGT TTGCCCCCCC CCTCAACGAC AACATCAGGT CTGGGTTTGA	180
GCGAGCTCAC TACGGCTGCG TGGGCAAGAT CTCTTTTGAG TTGACAAGT GCACCTGGGA	240
CACGCAGGCG CCGCGGGTTG CTATGCGAGC CAAAGTTCCG GACGACTTTA GTGGCCAGGT	300
CGTAAGGCC CAAGATTTGC AGGAGCTGCT GCGATCGGCC AGTGCTCAGA CTGAGGTGAA	360
GCTGGGACAA GACTGCTTTG ACTTTCCACA AGAGTTTCAG AACATGGTTG CGTGGCAGG	420
GATACCGACA CTTATTGGGT TCAGGCAGAC ACCTCTTACT GAGCAGTGG AGCGTTATC	480
AAAGCAAGAG ATTGTGGACT ACTTCAAAC CGCAATGTT GTTGCCTAC GTGCACTGG	540
GTCCAAGGAG GAGTGCTCT TCGACCTCG AAACAAGCAA CCGCAAGAG ATAGTCATCC	600
AGGCCAATC CTAAAGAAG TGATCTTCAA TCCGTGGTCA CAGGATAGT ATTCTCGTG	660
CTCATACACC GGTAGTCAG TGGACGACGA CCAGCTGCCC TTGAACGTTG CCTCAACAA	720

CGGCCAAGAT

730

(2) INFORMATION FOR SEQ ID NO:1049:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 702 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1640RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1049:

25	GATCAAGCCG AGCAGGCTGA CCTGGCTOC CCGACGCAAC ATGGGGTTGA CCGGCTCCOC	60
	CGCGGTGGGC TCTTGAAGC CATCGCCAG CTTCGCACTG GCGGGTGGC GCGCGCGGC	120
30	GAGGGGCGCC ATGTGCATGA AGACGGGAT GTACGAGCC TCGTGATGG TGTATATAGT	180
	GTTACAGCAG AOCATCAAG AGTACAGCAC CGACATCAA ATGAGCGGC CGTAGGTCTT	240
35	GCTACCGTGG CTGACAAAG GCGTGGCAAG TGCGCGTAC ATTACAATG ACAGCGTCAT	300
	GAGCCACTTG CCGTAGTTTG AAAAGTCGC CAAACCATG AGCACAATG CAATGAGGC	360
40	CTGATGGAC GTGTACAAG CCGCATATA AAGCATAT GCGTGAACT GCAGTCCCT	420
	TGCGCCAG TAGATGTAG AGTCATGCC GCGGGGCGG CAGTGCGGG CCGGGTGCC	480
45	CTTGGGGTGC CCGAGCTGT GTGGATGGT CTGTAACGAC GCAGGCACAA AAGAAAGCAT	540
	CATCAAGTAG GTCGGCGCG TCGAAAAGCA CACAAGGAG CATGCAGGA ATACCCACCG	600
50	GCGCGGCAC CGCGGCAGCA CTCCTGTGG GCGCGTGGC CGCCACTAG CCGCTGCTGC	660
	TGTTCCAGG TCACTGACAC CTGCATGCA GCGCCCTTGC TT	702
55		

(2) INFORMATION FOR SEQ ID NO:1050:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1640UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1050:

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GATCAACGAG CTGGCCGAGC TGCAGCTGGA CGATCCGAG GAAGGCTGG AAGAGGCTGG      60
TGGTGGGAG GAGGGGCGG CGCTGTGGGC GCAATGAGC GGTGACGAG AACTGAAGGA      120
GTACGACTTG GAGCACTACG ACGAGGAGGA TGCGGGCGCG GGTGAGAGG TGACGATGTT      180
CCCGGGGCTC TCGGGGAGG CCGGCTTCCA CGAGGTGAG GAGGGGCGAG ACGGTACCT      240
GAGCTTGCCA ACGGTAGAG AGGAGCAGGA GGAGGGGCG GAGCTGCAGG TGTACCGAC      300
AGACAACCTG GTGCTGGCAA CGCGGACCGA AGACGACATT TGTACCTGG ACGTGTACGT      360
GTACGAGGAC GCGGGGGGGT TCCACGAGGA GCGGGTGGG CAGGAGGCG GGGACCGCA      420
GGACCCCGAC GTGGGGGCGG GGCTGATAGG GAGGGGTGG TTGTAGGTG ACCACGACCT      480
GATGTTGCGG GCATTCCCGC TGTGGGTGGA GTGGGTGAAC TACCGGCGCG GGTGGAAGTC      540
TGACGGCGCG GCAAACTTTG CGGGGGTGG CACCTTGAC CCCACGATG AGCTGTGGAA      600
CCTGGACTGT GTGGACCGCG GTGCCCGAC ATGATCTCTG GCGAGCCCGC GGAATCTGGG      660
ACCGGTCCA AGAAGTCGAA GAAGAAGAAG AAGGGC      696

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(2) INFORMATION FOR SEQ ID NO:1051:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 725 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1641RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1051:

```

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCATT GAGCTCTTAC GAACTGCACA      60
AACTACTCG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA      120
AGTAACCCCC AGGCTATTTT TCTTACCCGC CTGGTGTGTTG TCTATATACC CGGTGTGATT      180
TTTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATOCAGTC CTTAGCGCCA      240
TGCGAAAATC TGCTTTTITA CCGCTGTTTC TOCCAGTCTT AGCACTGCCA GAAAAAAGAT      300
GTATGGCGTA TAGGCGCTGG CCGCGGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA      360
AAAAGACGTG GCGCGCCCG CCGGCAGAGC AAGAAAAAAT AGGCGCCAC CCTTCCAAGC      420
AGACGACAGG CGAGACATAA TAAATCCCA CACCAAGGA AGAAAGTCTT GTGCACGCTC      480
CGGCTCAT AGCTGCCAT TCTGTTCAT CCGCTTCCA AACCAGTAG TGGCATGTCA      540
AAGCATGCT CCGACGCTCC GCTGCTTGC AGTGCATC CTCTTCTAA CCCCAGCCAG      600
ACTTCCATA CTTTGCACTT CACATAGCAT ATCACTTTTC AGATCACTAC GTGACATTGG      660
GTACGGAATG GCACTCCAAT GCGACAACC TCTTCTACC CGTGACTTAC CCGATGTGCC      720
AACTA                                                                    725

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(2) INFORMATION FOR SEQ ID NO:1052:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 704 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1641UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1052:

```

20  GATCGGGTAG TGAGGGCCIT GGTCAGACGC GGCAAGTGTG CTGTGGTCT GTCTCGGG 60
    GCTTGCTCTT GGGGACGGAC TGCTTGGGTG CTCTGTGTA GACGGCCITG GTAGACCATC 120
25  TCTGGTGTG GCTTGCTACA ATTAACGATC AACTTAGAAC TGGTACGGAC AAGGGGAATC 180
    TGA CTGTCTA ATTAAACAT AGCATTCGGA TGTCAGAAA GTGATGTGA CGCAATGTGA 240
30  TTTCTGCCA GTGCTCTGAA TGTCAAAGTG AAGAAATTC ACCAAGCGCG GGTAAACGGC 300
    GGGAGTAACT ATGACTCTCT TAAGGTAGCC AAATGCTCG TCATCTAATT AGTACGGCG 360
35  ATGAATGGAT TAAAGAGATT CCACTGTCC CTATCTACTA TCTAGCGAAA CCACAGCCAA 420
    GGGAAACGGC TTGGCAGAT CAGCGGGGAA AGAAGACCT GTTGAGCTTG ACTCTAGTTT 480
40  GACATGTGA AGAGACATAG AGGTGTAGA ATAAGTGGG GCTTGGCGC CAGTGAATA 540
    CCCTACCTT TATAGTTTCT TACTTATTC AATTAAGCG AGCTGGAATT CATTTTCCAC 600
45  CTCTAACAT TTAAAGTCT ATACGGGCTG ATCGGGGTG AAGACATTGT CAGGTGGGGA 660
    GTTGGCTCG GCGGCACAT CTGTAAACG ATAACGAGA TGTC 704
50

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(2) INFORMATION FOR SEQ ID NO:1053:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 678 base pairs

- (B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1642RP

(vii) SEQUENCE DESCRIPTION: SEQ ID NO:1053:

GATCGGGT	TOGGAACGGC	TTGCTTCGCA	CAAAACACAG	GGTTCGAAGT	TACATACTCT	60
TCAAGAAATT	GACGAGGCGT	TGAAAGCGCT	GGAGCTACGC	GGGTCAGGGA	NTGATGGTAA	120
TGCGTCATAT	AAGTGCAACT	GCCAGGCGAC	TATGCATCCT	CTTTTTCAGC	TAGCCCCAAA	180
TTGCGTGAAC	TGTGGCAAAA	TTATATGTTG	CCGAGAAGGT	CTTCATATGG	ATTCTGCGAG	240
TTATGTGGG	ACGCTGCTGA	TACCGAAGCA	GCAGCAGCGG	GATATAGAGA	AGGTGTTGCA	300
GCGGGAACGC	GAATUGGTAA	AAGCCAAGAG	ACAAGAGACC	GGCTCGACTG	GCAAGAGAG	360
GGAAAAGGTC	TTTAAGATTT	CGAAGCAAAA	GGGAGAAAT	ATGTTTCAGTG	AGCAAGAGAG	420
GCTATTGAC	AAACTTGACA	GCCAGCGGGA	CGTGAAATGA	AACGCAACCA	GGTACTTGGG	480
GCAGAGGACT	GTCTCAGGAG	CAGGACTCGA	TTCTGAAGGC	TGAGGAAGTC	GATCCGGAAC	540
TAAGGGGGGC	CAGCGCGCGT	TGAGAATCT	ATTGCACATT	CAGACACTA	GCGAAGAGAG	600
GACTAAAATA	ATAGATACTG	CCAGTGACTA	CAGTATGTCA	AACGACGCAG	CAATTGCGGG	660
GTCCGCATAT	GAGAAGGC					678

(2) INFORMATION FOR SEQ ID NO:1054:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG164ZUP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1054:

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5      GATCTGTGAC CCGGTACGGT GCGGAGCTT GCGGCGGCA GCGCGGGCT GCGCTGCTTC      60
      TCGCGGACA GCGGCGCAA TACGTTGTTT TACAAGCTGC ATGGATGCT GGCACAGGC      120
20     GTGGTGTTG CGAGGCTGG GCACTTCTCC TCAGAGCTG CGCAACCGG GGGGAGGAC      180
      CTGGTCTGT TTGTACGA CGTCGCTCG CGTGGCTGG ACGTGGCGG TGTGAGCACT      240
25     GTATGAGA TGGACCGGC CTTCGGGTC GAGGACCATC TCATGTAT CCGGCGGAC      300
      GCGGTGGG GTGTGGCTG CGAGTGGTTG CTCTTCTGC TCGCGGGA GGAAGAGGC      360
30     TACATGGAAC ACATCGTGC CCACCACCT CGTGGCTGG AGCTGCTTG CTAGATGA      420
      GACCTACTG CGCGGGCTT CGCGGGCCT GTGCGGCT CGACCGTCC GACCAAGCA      480
35     ACGGAGCGG CCTGGGACG CAACGGACA ACTTGGCAC TCAAGTCA GCGCGTGT      540
      GCTGAAGAC CCGCGGAA GGATCTTGC ATCAAGGCT ACACAGCA TATCGGCA      600
40     TACGCAACC ACATCTCTCA GGAAGAGG CTCTTCAAC GTTGGCTGC TGCATCTTG      660
      CCACTGGCG AAGGCTTTG GACTTCGGA GCGGCGCAA GCA      703
45

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(2) INFORMATION FOR SEQ ID NO:1055:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 616 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1643RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1055:

GATCGGAACA AGGAGCAGCA GTCCATCCAG CTGTGCGAGC AGCAGCAGGG CACACTGCAG	60
GACAGGAAGC CGACATACCA AGTCATGTCT CTCAGAGCG ACACGACGGT GACCAAGTTC	120
AAGGTGACG ACTCCATCAG CAAGCGTTTC GAGTTCATGA ACAAGCGAA GGCACAGCC	180
GCGACCGCGC CGCGGCAGGC GGCGACCAGC AGCCCTGCAA TGGCTGGGG CGCCGGCAAG	240
CGGTGCACA AGCCCAAGT GCAGCAGGC CGCGCGGGG CGCGCAGGC CGATTGGGG	300
AAGCAGAGTA ATACGCCAG GGGACTTCG TGGCTGGGA GAAGACCAAT CCTGCAGGA	360
ATTCCTGTG CAGTCGAGA TTAAGAGCG TCTGTTGAA CTGGAGGAGC AGAACGACG	420
GAGCGCAAGC TCAACAAGG AGAAGTAAC CCGAGCTCC TGGTGGTGT TCCAGCAGCA	480
GCTTCTGCC ACAGATATGG ACGACTTTT CAACCTGAC CTGACCATA TGAAGACAC	540
CGATGATGAG TGGTCCAGG GCTGTTCGG CACTCTCGG GACCGACCA CCTGCAACAC	600
CATGCCCATC GAGGAC	616

(2) INFORMATION FOR SEQ ID NO:1056:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 538 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1643UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1056:

5 GATUGTTGCA AAGAAGCTAT TAGGGTGTCT ACACGTTGCA GAACAGCGCC CGATGCCATA 60
 TCCACACCG CGCTGTCAA ACGGTCTCT GGCACGAGC GCTGACGGG CGAGCGCTGC 120
 10 AGGGCTGGCG CAGCAGGGCG CGCAAAATC GTACTACCG CTGGTGGCG AGGGCGCACA 180
 GCTCAGCGCG CCACTGCTGC CGTGTGCAC GCGCGCGAT GACGCGGCG TCTACCGTA 240
 15 CCACAAGCAG ATCAGCAAGT CGTCCAGGA CGACTGATC TACTGCGCG GCGGCTGCT 300
 GAGCAAAGTC GAGTGAAGC AGTGCTACCA GCTGGACATG CTGCTGCTGA TGGAGCAGCA 360
 20 GCAGCAGGCC CAGCGAGTG TCAAGTTCAA CCCATATACG TGGCAGAGCT TCAACCGCG 420
 GGGCGCGCA TGGCGCGCT CTAGGGCG GCGCGCGCG CGGGACATT TAGTTGAGN 480
 25 GAATGCTAT GTCAAGACTG ACGCTTGCT GCATCGGGT TTATGTTTA TTCCAGTT 538

(2) INFORMATION FOR SEQ ID NO:1057:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 560 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1644RP

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1057:

50 GATCCTTTGC AAATTCGTCC ATAGGAATGT AAACGGACCT GCGCTCCAC CTCTTGGTAT 60
 TGCAAACAGG CATCTTGAGT TCGTTGGCC ATTGCATCT TATATGCTGT TCTTCATGCG 120

55

AAGGCACATT TTGCTCTTCT TCGGCTTCT CAAAAACAAC CTTATGCACT CTCTCAGTAA 180
 5 TATACACAGG GTACGGGGTC GCGTCCCTG AACATTAGGA AGAACCAGCC AAATGGGCT 240
 GTGCTGGCG ACTGGCCGA CTCTGCACK AAATCCCAOC TCAAGTATAT GACCATCAAG 300
 10 TCCCTGAACC GCGTGCTAAA CTCTGGTAT GTTGIGTGA TATCTAGCG ACCGGGACT 360
 AGCGAATGG TATGCGGCAC TTCCAATAG TAATGCCCC GCGTTTGAA CGGATGSTAT 420
 15 ACCCTAGTAA CTTTGCCIGC AACTCAATA TGGGCTTGG GCTTTTCCA GTGGGCTGG 480
 TTTGTAATTG GTATCAATGT CTGGGAGAT GAGATGGAGC TGTGGCTGA AGATATGTCC 540
 20 TTTAGCAGGT TATGCTCTC 560

(2) INFORMATION FOR SEQ ID NO:1058:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1645RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1058:

45 GATCTTGAA GAGGAGGACT ATTCAAGTAA AATGGCACGG CGGAGATA AGATGAAGA 60
 GGAGTGATA CGAAAGTAG AGCGTGAGAA GAAGAAGA AAGAGAGGG CATAATCCCC 120
 50 AGTGTAAATA ATCAATTCG CCGTTGCT GCGTGTAGC ATAATAATAT GTAGATAGT 180
 GGTCAGATA GGTATTICAA AAGTTAGCA ACCCATGAAA CATCAACTT TTCAATGCAA 240
 55 TGATATGTAA GTTCATATA TTACGAGCTG TGAATAGAG AACTCAAT GAATACTTTT 300

ACCACACCAT AACAAAGCA CAATGTTACG AGAATGAAGA CGATAATGCA GCTTGAATAG 360
 TOCCACCATG GGGCCATATG GTACCTACTG AACAGCAGAA GCAAGCTAAA CGAGCTCAGC 420
 ATGAGGGACA CCACTAGAGA TACCAGGATC AACCTGTGTA TATAATTACT ACCTTCAAAC 480
 TCAGTCTGGT CATTTCOAAG AGGCTGAAC AATGAAAACA TGATTCCAC AGTGGTACCT 540
 GTGGTTATGC AAGATACGAG CAGGGTGTG AGGTAAACA ATGAGACCAC CTCATGTGC 600
 TTGTATCCAT ATAGGACATC AAGTTCATG TAACATACTA GGCAGGCTC GTCATCCAG 660
 TTTGGAACCT GCAGTTGGCT ACCACTCCG GCAAGTGGT TTGCAC 706

(2) INFORMATION FOR SEQ ID NO:1059:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1645UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1059:

GATCAGCGGC GGTGCGGCG GCTGTGCGG TAGCGCTGCA GCAAGCTGCG GGGCGCGGCG 60
 GGGCTCTGG CCTGGGCTC CGGCTGCGG GCACCGCGCT CGGGGTCTG CGGCGCAAGC 120
 TCCAGCGCG TGGGTTCG ACTGATCAG TGATCCAGG TGCTGCGTC CGGCGCGGCG 180
 CTGTCCGCG CGCGCGGCG CTCGCGGCG GCGCATGCG CGGGTACAC ACGGCTCTTC 240
 GGATGTACC GGTCTCTC GCGCGCACG TGTGAGGT ACCGCGCGG GTCATGCGCG 300
 GCGCGATG CAGGCGGCG CAGCGCGCG CGGCGCGCG GGGGTCCAG TCCCAACTTG 360

TACCGTTCCA CTGCTGCGGC CGCGTCTCTT GCGCTGCGG GCGGCTGCGC CGCGGCGGCG 420

5 GCCACTGCGG GCGCCACCGG CCGCTGGAAC CCGTACCATC GGTCCCGCTT GCGCTCAAAG 480

CTCAGCGCAT TCTGCTCCCG GACCTGAAAC GCGGCGTCGC CACCATGGCC CGCGGCGTGT 540

10 TTGCGCGGCG GGAGCAGGCA GTGCGCGCGG TCATGATTGG CGCGCGAGTT TGTGCGACCG 600

CGCGGTCCG CGCGCGCGCG CGCGGCGGCG TGCGCGCGAC AAAACGGTCA CTATTATCCG 660

15 AACCTGCTGA GCCACGAGA AGTCTGAGC GCGCTGCGG GCGTC 705

(2) INFORMATION FOR SEQ ID NO:1060:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1646RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1060:

40 GATGAGAAC CGCATGGAAG ACAAGGCCAA CGTGGTGATC CTGGGGTCCG GCTGGGGTGC 60

GATTTGTTTC CTGAAGCACA TCGACCGCGG GAAGTACAAC GTGACGGTGG TGTGGCCACG 120

45 GAACTACTTC CTGTTACGCG CGCTGCTGCC CTGAGCGGCC GTGGGCACCG TGGACGAGAA 180

GTCGATCATC GAGCGCGTGG TGAACCTTGC GCTCAAGAAG AAGGGTAACG TGTCTTACTA 240

50 CGAGGCGGAG GCGACGTGGA TCAACCGGCA GCGCAACAGG GTGACGATCA AGTCGGTGTC 300

GACGGTAGCA CAGGTGTGCG ACGCGGACAA CCACCTGGGG CTGACGCAGC AGGACTCCGC 360

55 GGAGCTGAAG TAAGACTACC TGGTGTCTGC GGTGGGCGCG GAGGCCAACA CGTTGGGCAT 420

TCCGGGGGTG GAGGAGCAAG GCAACTTTTT GAAGGAGATC CCACACTGGT TCGAGATCAG 480
 5 AAAGCGCTTC CTGTGGAAG TCGAGAAGGC GAACCTGTTG OCCAAGGGGG ACCCGGAGAG 540
 AAAGCGTCTG CTGACCATCG TGGTGTGGG CGGTGGTCTT ACCGGTGTGG AGACCGGGG 600
 10 TGAGTCCAGG ACTAGTGA CCAGGACTG AAGAGATTCA TGCCCTCCAT CCTGAGGAG 660
 GTGCAGATCC ACCTGGTGA GGCCTGCCC AACGTCTGA ACATGT 706

(2) INFORMATION FOR SEQ ID NO:1061:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1646UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:1061:

GATCAAAATGG GTTAGCCCGT CTCCAACGAG CCGTCAACA TAGTGGCAGT AGCGGTGTA 60
 40 GTCTGGATC GTCTCAACC CGCTCAAATT AAATTCTCG TCCAGAAATGT AGTCTGCAT 120
 GCGGTGCCC ATCTTGTTG TGATGTCTC AATCACTGC TGGTACTCG GCTTCAGCTT 180
 45 GTGGAATCG GCTAGAATG TCTGAATC CACGAGCAG TCACGGTCTT TCTCGTCTT 240
 CCGGTGCGG TCGAACTCC AGGTATCCAG CTTCAGTTT TGGTGAATC CCGGAGTAG 300
 50 CGGCACCTT ACCTTGGGAC TGATGTCTAT ATCTCTTCA ACAGTATCA GCGCAGCAG 360
 AATCAGTAG AACAGCATCA CCGGTGTGG CAGCTGGGA TGTAGCTCA TTATCAGGC 420
 55 CGCAAAGAC TCGAAGTCC CTGTAGCAG TGGTAGACC GCTTGAGCTC TGCAGAGCC 480

TGGTGTGGT CCGCAGGATA AAGCGGTTC CTCAGAAATT TGAGCTTCAG AGCTGCGTTC 540

5 AGCTCCAGTG GGTGTGTGAA TAATGAACA ACCTTCCCCA TGGTCAGGAT TCGATTAGT 600

AATTGCCAAT TATGTCAAGC GCGTGTCACT TGGTGATGTC GCGCTTGCTT GTACAGG 657

10 (2) INFORMATION FOR SEQ ID NO:1062:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 727 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1647RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1062:

GATCCAGCTA GATACCGTGC CAATTGCTGA TAAATCTGTC CAGAATGCGA TAAAGGCTCT 60

35 CTGAAACGGG CAACGCGCTCC GGAGCGCCAG GAGCTGTGTC GAGATGCGAG GCGTCTGGAC 120

TOGATGCACA ACTAATATIG AATTCAGTAT CCGGCGTAG GCGGGTACAT AACTGCTTAC 180

40 GTACTCCAC TAAGACACTG CGCCCCGCAC GCTGCACGTG CGATGCGGCT TACAAGACC 240

AAGTCTTGG CAACACCTGG ATATGGTATC CATGGGGTC TCTGAGGAG GCGAGATTCT 300

45 TGATAGACC CTGTGTGTAG CGCAACTCCC ACTCCAGGTC CCGGTACGTC TCTOGATGT 360

CAGCGCAAAG AGCGGCAGGG TCACTGAGCG ACACACCCAT GTGGCTGTAC CCGTGGGCT 420

50 CTGCGTTCCC GTTGTGATAC GAGAAGTGG CGTCATCTC GGTCCCCAA TTGTGGTCA 480

GCTCCAGAAT GCTCTCGGCG TTCAACCGCT CGTCCGCTG CCGATACCC AGGAAGTAGA 540

55 GGGTGAATTT CGCATTTGGG TGCTGCTCA CCTCCAGTAG CGACATACCT AGCACATTCT 600

GGTAGAATC CAGCGACTTC GTTGGGTCTT TCACAGGTAG CATCGTGTGG TTAAACTTGG 660

5 GCCCCAGGTC CACTGGCTCC GGGTCGACA AGTTGTACTG TATCAACTCA ATCCAGTATC 720

CGTCGGG 727

10 (2) INFORMATION FOR SEQ ID NO:1063:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 615 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1647UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1063:

30 GATCCGAGCA CGGTGCGGT GCAACAGAGG AAATATATGG CACTACAGAC AGTGCACAGA 60

35 TGCAGGAGCT GGGCCGCTG GGGCGCAGC GCTATCTGCA CCGCGGGGAG AGGGAAAAGC 120

TAGACTGGGC AATACGGGAC CTTCATTGT TAGAAGAAGA CGTAAAGAAG TACGGATGG 180

40 ACAAGCTGAC GGAACGGGAG CGAAGAGAGA TTGGGACCAA GCGGCAGCTC GTGCAAATTG 240

TGCGGAGCG CGATCGGGG GGGCGGGG CGSAGCGTC ATTCCATATG CCGGGGAGA 300

45 CCGTGTGGA GGCTACTGG CCGCAGGAGA AGAGCTGGGA GGAGCAGCAG GTGCAAAGG 360

CGGTGCGGC GGAGGGGCGC TCGACATAA TTGAGGTGGA GGGCTCTGAA CAGTACAGT 420

50 TTGTCTGGA CTGCGGTTC GTTGTGGCT TTACAGAGGA AGAGAGCTG GCTCCCGGG 480

AGCGTGTGA GAAGCAGCTC GAACAGAAGC TCGAGAAGGA AATTAAGGC GTGGGTGGA 540

55 TTCAAGAAAC TAGAGGCAG CTTCCTGTGT ATGGGTACCG CGACGAGCTT CTGAAGGCG 600

TGGCGACCA CCACT

615

(2) INFORMATION FOR SEQ ID NO:1064:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 648 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1648RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1064:

GATCCAGCTC ATGCAGTGGC CGATTCCAGC CCTGCCTGTC GTTTAAAGTC TTGAAGTAGT	60
TGGTGCTGAA ATGCTTGTC AATTGTGACA GGTATCGTTT CGAAGATTTC GAGAATAGTC	120
CTTCCACCAC TTTC AATGGG TTCTCCTCGA ACTGTGAGAG GAATGAATTC TCCAGCTTGG	180
AGAATGCATG CTGTGAAGAG TATATAAGAG ACCCAGCTTT CGCCACGAAT TTGATGAGCT	240
GATTGAAGTC GTTGGGCATG TGGCTCTGGG GTATGAATCG TGGCACAGTC ACGTCAAAG	300
CTGCTGGGT CATAGGACGG TATGGTCCCG GTGGGTACTC GTGGACATCG AAGTTATCAA	360
GCAGATAGAA ATCCTTGATT TTGCCCTTGT CTGGAGAGA CCGCAGGTAC GGCAGGAAA	420
GGTGGTACAG CGCGCTTCCC CGGTACGGT AGATCTTGTT CAGAATAAGT TCGTGTGCT	480
TGCTTTCATC GTTGGCATCC TTGTACTCTT CTACGGCTT GCAAGAGGGG AAACACACT	540
GGCCCGGGT GAATATTAAG TCATCTGGG TCGTCTTCTC CACCAACAGG TCGTACGCC	600
CAACGATCGT CACCAGGATT TCCAGAAAAG CGTAAGTCGT GCACATGT	648

(2) INFORMATION FOR SEQ ID NO:1065:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1648UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1065:

GATCTAGCAG GTGTTGAACA GATAATGGAA TGGCTCTOCT ATATTCCAGC TAAACGTAAT 60
 ATGCCCCGAC CTATACTGCA GTCAGAGGAC AACTGGGATA GGGATGTTGA ATACACACCA 120
 ACACTTCACA GCCTTATGAT GTACGCTGGA TGATTGAAGG CCGCCAAGGA CCTGATGGAT 180
 TTGAATAATG TCTGTTTGAC AAGGGTTCTT TCCAGGAAAC ATTATCAGGC TGGGCGAGAG 240
 GGTGCTGTGT AGCCAGAGCT CGCATGGGTG GTATCCCGCT CGGTGTTATT GCGGTGACA 300
 CTGTTACAAT TGAAACTGTG ATCCCTGCGG ATCCGGCAAA CCTGCATCC ACAGAAACTT 360
 TGATTCAGCA GGCAGCCTTA GTTTGGTATC CTAATCAGC ATTAAAACT GCGCAGGACA 420
 TAGCTGATTT CAACCACGGA GAACAACCTC CACTCATGAT ATTAGCAAAC TGGAGAGGGT 480
 TTCTCGGTGG TCAAAGAGAT ATGTTCAATG AGGTCTTGAA ATATGGCTCC TTCATTGTTG 540
 ATGCTCTAGT GGATTATAAA CAGCCTGTAT TGGTATACAT ACCTCCAACA GGTGAGTTGA 600
 GAGGTGGTTC CTGGGTTGTG GTGGATCCTA CAATTAACTC TGACCAGATG GAGATGTATG 660
 CTGATTCGGA CTCGCGGGCA GGTGTGCTAG AACCTGCTGG TATGGTTGGT ATAAA 715

(2) INFORMATION FOR SEQ ID NO:1066:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 714 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1649RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1066:

20	GATCAAACGC AAAACTGTGA CCGAGAAAAA AGTTTGGCTG ACAGACGACA TGCTGCAGG	60
	GCACCAAGGG GTGGGCAACG GAGCGGTGGC GTTTCAGGG ATGGAAGCTG GGGGACAC	120
25	GAATCTTTTG CTAAACAACA CTATCAACAA GACCAAGTTC AGTCACTAA AAAAAGCGT	180
	AGATAGTATC GAACTGCATA ACCAGCAGCT GCGGCGAGAG AACAAAGTT TGAAAATCGA	240
30	ATTCCAAAAG ATGAGTTCCA GATATAACTC CATGGTGGAG AACCTGGTGT CTCTTAAAA	300
	CTACAATAAT TCCCTCGTTG AGAACTTCAA TCTGCTGGTA TCCAGCTGG CGCAACAGG	360
35	OCTGAAGGTT CCCATOCAT TAAACCTGG CAACTATGCA TCTTCACAGG TTGCCAAAA	420
	TTTATCTGCT TCCAGCTTC AACCGCATGT ATCGCGGTTG GGTACTGTAG CACCTAGAA	480
40	CATACCTTTG GCGCAGGCTA CCGCGTCGAA AGAAGAGGCC AATCCTCTTA CAGCCTGG	540
	CCCAGGCTTC CATGTTCTGC TGGTAAAGA ATGATTGGT TTGTATCCAA CTATGTTCA	600
45	AATCTTGAG AAAATATGC TGTTCGGTG AAGTGTAAAC GCACGGCTA TCTGCTATTG	660
	AAACAGTAGA GAAATTCCAG TACGACCTG TTCTGATGGA TATGTGATG OCCA	714

(2) INFORMATION FOR SEQ ID NO:1067:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 663 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1649UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1067:

GATGCTGGC GCGGCGAGC ACATGCGGG GCATTGAGG TTCTACCACA TGCAATCTAT	60
GGGGCTGTG GCGGGTTGC GCGGCGAGG GAAGTACGG CTGGGAGGC GCGAGGGA	120
GGCACCAGC GCGGGTTGC CCGAGTGA TGTGGTCTG ATGCGGGTC TAGGGTTCTG	180
GCGGATACC GCGGCGGGC TCGAGCGG GCGAGTTAC TACGACACT ATGTAAGCG	240
TACGAGCAG CTGCAAGCA GGAGACCGT GCTGGTTGG CTGGGCTCA GCGAGCACT	300
GATGTTGAC GTGCGCTAG AGCGCAGCA CCAGTCTTG GACGGGTGG CTTGGGGA	360
GCGACAGTT AGGTGGGCG ANCGGGGC GCGGAGATA GTTGATATAT AAGTGTATCT	420
AGCTGTAGT GAAGCTCCCT TTGCGAGCA CGAATGTCG CGTGGGCTC TGGTTGATGA	480
TCTGGGCTC CAGACGAGG TTGTTGCGT GGTCTCGAC GCGGTGGTG CCGACCACAA	540
CGAAGTGGT GCGAGGTC GCGAACAAT ACAAGATCTT GATGTGCTG GTTACCTCT	600
AATCGGTGC GGTACGAAT GTGACTGCT CCGCATCAG GTGCTCAGC ACGTGGCA	660
GGA	663

45

(2) INFORMATION FOR SEQ ID NO:1068:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 706 base pairs

(B) TYPE: nucleic acid

55

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1650RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1068:

GATGGCTCTG	COGGGACTCG	ATTTTGTGTC	ACCGGCCAAG	CAAGAAGGAC	CTTGGGTGCA	60
TCATGTACAC	CTCGGGCTCG	ACAGGTGACC	CGAAGGGTGT	GTGTTTGACC	CACGCTAACA	120
TGTGGCGGG	CAITGGCGGT	GTTCGGTTG	TGATCAACCG	CGGATTGTG	AAGCCTGACG	180
ATCGTGTAT	CGGTTCTTG	CGGCTTGGC	ATATTTTGA	GCTTGTGTC	GAGTTGACCT	240
GTCTCTACT	GCGGCGCTA	ATTGGCTACG	GCTCGGTCA	GACGTTGAC	GAGGCTTGG	300
TCCGCAACT	TAAGGGCGAC	ATGAAGGAGT	TCCGGCGTC	CGTCATGGTC	GGTGTGGCAG	360
CTGTCTGGG	GGGTGTGAG	AAGCTATTG	TGGGCAGGT	CACTAAGTTG	CCTCGGTCA	420
AGCAAAAGAT	ATTCTGGGG	GCTTACCACA	CCAAGCTACG	CATGAAGAAG	TGCCACATTC	480
CAGGCGGGA	TCTAATAGGA	AGCATGATCT	TGAAGAAGT	GGTGAGACC	ACTGGTGGCA	540
ACCTTGGCTA	CATCTTGAAT	GGTGGCTCTC	CATTGTGGCG	GGATACGCAA	GTTTTTATTT	600
CCAACCTGAT	TGCCCCGGTG	TGATTGGTT	ACGGCTTAAC	GGAGACTGTG	GCGAATGGCT	660
GTATAGTGCC	TCCACACCAC	TTCAGTACG	GGGTGTGGG	AGACAT		706

(2) INFORMATION FOR SEQ ID NO:1069:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 674 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1650UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1069:

10 GATCCATTTC TCATGGAGAT TAACGCTATA TGGAGGAAA GCAATACAA GAAGCAAGCC 60
 AAGAAGTCTG TTAAC TTCTC TATGCTAGG TTGACTGATT TTACCAA CT CAAAAAGCC 120
 15 GATACTACAG ATGTCTGGAG AGGTTTAGG ATGTACGAG AAGTACAAAT GAAAAAGAGA 180
 TTTAGTTATA AATGGGATTA TGATAAAGTG TCCAGGGAAT TGGATGAAGA GACATGGAAT 240
 20 AAGATTATTA ATAGGGAAC TTTGAATTIA TTTGCATTAG TGGAAAGATA TACGGTAAAG 300
 APTGAAAACG ATGCCAATAT AACCTATTGG AGTTCGTGTC TTATGGCAA CTCTGTGTC 360
 25 AAGCATGAGG CTACAGGAGT GAGGCAATGT GCGAACTTCT TCTGTGGTAA ATGGGAAGAC 420
 CACCGAAGC AGTTTCCCA GTGCGCGGT TCGAAGGCA CAAATATTG CAGTTGTGAG 480
 30 TGTCAACTAC AATCTTGGC ATATCATGG TACTGGTGCC ATGATGTTG CTCTGTCTC 540
 ACGGCACTT CCTCAAGGC AACACCACT GGGACACATA CCGCAATGC TGTGGGTCAG 600
 35 TGGGCTGGAA CCACGACCAC TACTACCAG GGGCTAAGG AGGTAGATCA ATCCATTTTG 660
 ATGACAGCAA GGGG 674

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(2) INFORMATION FOR SEQ ID NO:1070:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 622 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1651RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1070:

10 GATGGGACG TTTACCGAAG AGCAAAAAGA AAAGTACGG ATGGGGTTGA AGGACAAGGG 60
 GAAAGAGTGC TTAAAGGACC AGCGGTACGA GGAGGCGATC AAGTTCTACG ACTGGCGGTT 120
 15 GAAGCTAAAA GAAGACCCGG TGTCTACTC GAATGGGTG GGTGCTACG TGCCCTTGAA 180
 CAAGCTGGAG AAGGTTGTGG AGGACAACAC TGCTGACTA AAGCTGAAAC CCGACTATTC 240
 20 TAAGTGTTTG CTTCGTCTG CAACAGCTAA TGAATGGTTG GGTAATTATG CTGATGCTAT 300
 GTTGATTTA TCTGCCGTAT CTCTATACG CGGTACAGC TCGCAGACAA TTGAGCCCGT 360
 25 GCTGACCGG AATATGAACA AGCAGGCTAT GCAAGTATTG AAACAGAAAC TCTCTGGTGG 420
 AGAGAACAC GAACTTCCTT CCAATACTTC CTTAGGTCTT TTCTTCGCA TCTTCCTTC 480
 30 GGAGACATG TTGAGAACT ACGATGAAAC TTCCGAGCA GACGCATTC TTCTCAAGGG 540
 ATTGTGCGC CTACACGGC GCCAGGCAGG CTCCTATGAA ATTGCTGATG AAGCCTTAC 600
 35 CGATGCTGA GAAAAGTTCA CC 622

(2) INFORMATION FOR SEQ ID NO:1071:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 679 base pairs

(B) TYPE: nucleic acid

45

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1651UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1071:

5	GATCGTGATT TTGCGGGGCT GCATCTGCA GGTCCACAT CATGCGTGC GCCAGGCTAT	60
	GCTGAACATC CCCAGGGGG TCTACTGCAC GTTCGGTGG CAGTCATGC CTGGATCCA	120
10	GTACGGTATC TGGTACAA ACTTCATCAC ACACTGAAT GAGATCGAA CCCAGACCT	180
	GGACCGCTTT CTGAGGTGG TACCGAGAT ACCAGACAAC AACTACTGTA AAATCGTCT	240
15	TGTGACTTC GACAAAGTGC CTTTGTCTAT CTCCCTGAAG ACAAACTACC ACTACTTCCC	300
	CACCAGCGAG CTCTCCCGCA ACTCGACAC CGGCGGTGG ATGAGCAAC TCTCCAAGC	360
20	TACCCCGCT AAAAAGTAGC AATAGACTGA TATCTCTTAT AGAAGTATA AACTATTAC	420
	ATGTAACCG ATCAGGTGAC GAGCGTCCA CGAGCTGT GCAGCATGCT CAGTGGTATG	480
25	GCAGTAGCG CGCAGAGCC TTCAGATGG CACTCGCCG CATGGTCCG CCAGAGAGCT	540
	GCTTCAGCG GCGCTGTCC AGCTGTGTT ACCGTGGTG CGCCAGCT TGAAGCTT	600
30	GTACCTCTG CAGTCTCCG CCATCTCTTA GCTGCGCTT TGTGGTCTT CATTAGTGT	660
	CCACCATGA TCAGGAGC	679

35 (2) INFORMATION FOR SEQ ID NO:1072:

(i) SEQUENCE CHARACTERISTICS:

40	(A) LENGTH: 692 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50	(A) ORGANISM: PAG1652RP
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55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1072:

GATCTTCGTT CGTGAAAACC TTGCAAGTCT TCATGAGCTC AAGAATIGCC TGTGCATCTA 60
 5 TTCTGTCCGG TTGGATCTCG CCTTCCTTAT TGTCTGAAT CATGCCGGCA AAAGCGCGCG 120
 GGTCCAGTC ATGACGGGAT CGGCGCTTAT AGGACTTCCC TGCAAGCGC ATGAGGCTCC 180
 10 GCCAGCCATT TTCTTCAATA ATATTGACAA GTCTTCGTT TTCCAACAG ACCTTGTTTG 240
 CGAGACTGTG GAAGTGTTC ACCTCATCT GCTCAAGTAT TTCTACCTT TCTCAGCAG 300
 15 ACCATCGCAA GTTGCANTCT GCTCTTGA ATGTCTCCAT AAGCTTTTCA TTGATGTTAT 360
 CCACTGCTTT ATTGTCAAG GAGAGGATTA GTATTTCAAT AGGAGCTACA ATCCTTCTG 420
 20 AAACCAGGTT GTAGACTTGA TGCAGTAGTG TCAAGGCTT GCCAGACCA GGTCCCGCTA 480
 CCACATGAC AGTTGTACAA GGTTCATATG GATGTGTTAC TACTGTGAT TGGGAGTGG 540
 25 TCAGTGCCTT CATTCATGTA TGATACATC TCGAGCGTGG GCGAAGGAA TAAATTCGTG 600
 AATTTCGTT TTAAGATACT CAAAGAAAT GAGATAACG CCGCAAGGG CGGAGTAGAA 660
 30 TTACAGCAGC TATTGAATAT ATTAGTTA TT 692

(2) INFORMATION FOR SEQ ID NO:1073:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1652UP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1073:

55 GATCTCCCA CCATTCTCT CCAGCGCTT CTGTAAGGT TCCGGCGTT GCTCTCTCG 60

CTTTTGCTTC TTCTCCTTAC GGATTTTTCG ATACAGCGGC TTATTCAGTT CGAACTGTTT 120

5 CTTCTTCCAC TGTTCCTTCC ATTGCGACTT CGACATGCGT TUGGGAACGG GCGGCAAGGC 180

AGCCCGTGGT TTTGGCCGAC TCAATGTTTC ATCATTAATTA GTTTCAGGAG TCATTGCCCC 240

10 GTTTCAGGAC TCTTAGCCCA AGGTCTTGTC ACTGAAGTAC AGTAAATGG ATGCCCTTTC 300

GCGGTGATGA GGCAATGACC TGGTGAAATT TTTCCGCCAT GGTGAGCGTG TATAGTGGTC 360

15 ACGTGACAAC AGTTCAGCCC ATATATGGAG CCCCTAGGTC ATATAAAGGG TCAGGAGCCC 420

GCTAAAGTCT TTGTATTCIG ACCTTTATTT GGGGAGCTTT AGGGCGTGTG TCTCTATCCA 480

20 GAGCCGTGTG GTGAAAAGCG TCTCAGCTCA GCGCGTCTA CTACACTGAG ATTTAAAAAC 540

CAACAGCGAA GCAGCAGAGT ATGAAGTCTT TAGCAACTAA ACTGGAAGTT CCATGGGTTG 600

25 AGAAGTACCG GCGGAGCTG CTGAAAGATG TGTGGGAAAC GAWGAAACGG TCGAGCGCGT 660

GCAACAGATG CCAGGGATGG AAATATGCCA CACTTGA 697

(2) INFORMATION FOR SEQ ID NO:1074:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1653RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1074:

GATCTTTGAT GCTATTTTGT ACCTTAAGGG CTGTTCCGTG CTGGAGATGA TCTCCGGCTA 60

55 TATAGGGGAG ACCGCTCTCC TGAAGGGTGT TGCTTATAT ATAAAGCGGA ATAAGTTTGG 120

CAATGCTACC ATGGAGGACC TGTTCGGGGC CATTAGTGAG GTAGCAGGCC TTGATCTCAT 180

5 GGCGAAGGCA AAAGATTGGA TTCTAAAGAT CGGTACCCG GTTCGGACA TCACTGTTGT 240

TGATGGGAAG ATTTCACTGT CACAGAGACG GTACCTTTTG AGGGACAAG CTGACGCCAA 300

10 TGACGACCTA ACCACCTGGT GGATTCOCCT GGAACGACA CAGGACTCAA CTTGCACTAC 360

AACAGAAATG GTTCTAAAT CCCAAGAAAC AGAGATCTCA GCTACCGATT TTGTGTTCTT 420

15 TAACAACGAT GCCCAGGCT TCTTCGGGT GCATTATGAG GATGAGACTA TTCTGGCTAA 480

CATCTGCAAG AACATAGGC AGCTGTCTC AGCAGTAAA ATTGOGTTAA TTGGGATGT 540

20 TGATGCCACT GGTACCTTCA CGCAACTCAT GGCCTGTTCTG TCTGCATTCT CTGCAAGCA 600

TTGCAAGAC TACTATGTTA TGAACCTCTG CATTGTCCAT TTCCACTCG GCTGCTCAA 660

25 TCATATATCG CGATGGGTG CAGAGATCG CAAGAAGCTT GCGGCGT 707

(2) INFORMATION FOR SEQ ID NO:1075:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 689 base pairs

(B) TYPE: nucleic acid

35 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1653UP

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1075:

50 GATCTAATAC TGGGACGAC TGGGCGTTGT GCGGTGTCT ATCTGTATGC GAACGAGCA 60

GGCTGTGATG GAGACANATT GTACTACGAT GGTTCGGGC TCATTGCTGT GAACGGCGA 120

55 GTTGTGGCCC AAGGCTGCA GTTTCGCTG AGGATGTG AAGTGGTTAC TGCAACTGTA 180

GACTTACAAG AAGTGAGAGA TTACCGGATG TCTGTGATGT CGGAGGGTT GCAGGCAGTA 240
 5 TCGAATAACG TGACTTTTGA ACGTATTCAA GTACCTGTAG AACTGGCCGC GATGCAAGAT 300
 AGGTTCAATC CTACGATTAA CCTGACGAAG GCGAAAGCCC CATACTATCA CAGCCACAGG 360
 10 GAAGAGATTG CGCTGGGCCC AGCTTGTTGG TTATGGGACT ACCTACGTGG TTGCAGAGGA 420
 ACAGGCTATT TTCTTCCACT ATCTGGGGGC ATTGACTCAT GTGCCACTGC TGTAAATTGTG 480
 15 CACTCTATGT GTCGATGGT TGTCAACGAA ACATCTGAGG GTAATCTGCA AGTAATTGCA 540
 GATGCGAGAA GATTGGCTGG TGCTAGCGAT GACTGGATTG CAACCGATGC ACGTGAATTT 600
 20 GCAAATAAGA TATTTACAC TTGTTTATG GGAACAGCAA ACTCCACAAA TGAGACTGGC 660
 AGTCGGGCAA AGAAACTTGC GGAACACT 689

(2) INFORMATION FOR SEQ ID NO:1076:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 598 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1654RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1076:

GATCTTATTA ATTTTGATGG TGCTATATTG TAAATTCAAG TAATGATAGC GGGTGATGG 60
 50 GTACGTACCT ATACATATAA CGCACAGTTC TCCATCGTCT ATGGGTGTAT GAAAATCACT 120
 CCAGCCGTGC GACACGCCAC GTGTAATCTA GTGAGTTTCA AGTTCTTCTT CCTCATGGC 180
 55 AGAAAGTTGG CCGCGGGCGG TGAGGTTCCT GAGCGCTCC TTGAGCTGGG CGATAAGGCT 240

ATTCTCCCTT TGAGCATGCA TGGGATACC CTCTAGAGAC ATATGAGCGG AATCTGCACC 300
 5 ATCTAAACCA TGTTCGCTGT TGGTCCAGT GGCAGCTGCC AGTTTGGGAC TGGACAGACC 360
 TGTCTGTCCA TCCTTGTAAG AATCTCGGT CGTTGCGAG TTGAATCA TGGTCCCAT 420
 10 AGTGTGAAG ATTTCTCTCT CTCTGTAG TTCCAGATGG GTACCTGTCA GATTGATCAA 480
 GGACCTGCGG CTTTACGGC GCGAGAGCTT GGCAGAAGA GAGTGGCGG GTTGGGCTCG 540
 15 CTTCACCAAG GTTGTAAATG GAGGTGTGAG ATCTCGAGT CCTTGGTAGT CTCAGACA 598

(2) INFORMATION FOR SEQ ID NO:1077:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 571 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1654UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1077:

GATCGGGGC GGGTCGCGG CAACCAACGA TGTCAGTGT GGATACCAGC GACCTGGTAG 60
 GCGTTACGCT GCGAGGAGCA GCGGTGGCG GAAACCGGC AGCAGAGCAA GTACTGGCTG 120
 45 AAGTGGGGC CGTATCTGTC GGAGCGAGC TGGCGAGCG TGGGGAGGA CTACTGTTT 180
 GACGGGAGG CGTGGGGCA CTTCGGTTC GAGCAGGCGA ATCGCGGGT CTTCGGTGG 240
 50 GCGAGGAGG GGATCTTGG CGTGAGGAC AACCGGAGC TGGTGTGCT GAAGTGGGG 300
 ATGTGAACG GCGTGACGA GCTGCTCAAG GAAGCGGATG TTGGGCTGA CCGGGCGCA 360
 55 GGCACACCAC GCGAGGACT GCAAGGAGT GTACTACTAC CTGACACCC TTGGAGCCA 420

TGGGTACATG AAGGGCGTGT AYAAGTACCC GNTCAAGCGG GCGTTCCCGT ACCAGGAGCT 480

5 TATTGCGGGC AACGACGGGC GCGGTACCC GGAGCGGAG CTGAGGTGT ACGAACTTGA 540

CGGCTGTAC CCGAGGGCGG CGACCGGGA C 571

10 (2) INFORMATION FOR SEQ ID NO:1078:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 694 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1655RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1078:

30 GATCCACTTT CCACTCTGAC ATCGGTCAAT CAAGCGTGGG CACTCAGGTT CAGTTCTGAA 60

35 GCAATTGCAG TCCCCGAGT TACCTTCAT TTATTAGAG ACTTAGTGGT GTTATAAGTC 120

AGTCTATCG AACAGCTCTC GACAGTCATC GGAAACGAGA AGTTACCCG CCTTGAGACA 180

40 CAATCTGTTA CCGACTTTG ATTACATGC GTTACCCGCT CTGGGTCAG TCGCGGAAG 240

CACATGACAA AGGCGGAGAG CTAGTTAAGT GAGGTCATT GGGTATGCC GGAAACTCTA 300

45 ATGACTAGAT CATCCGAGAA GCACCGGTAT ATAAGACGCA TCAAGGTGGT GCTCGAGAGA 360

GTGTGTAAAA TGCCAATTGC TTAGCCACTG ATGCCAATA CACTGGATAA GAGTTACGTA 420

50 CAAAACGGCC CTGGAGGGA CCGGTGTTT CAAGGGAAAG TGGTCTTGT CACTGGCGGG 480

GCGGGGACGA TCTGCAGGT GCAGCGGAG GCAATGGTGC TACTTGGTGC CAAGGCTGG 540

55 ATCATTGGGC GCAATGTGGA GAAGACTAAG AAGGCGGCAG CGGAGATGC GGAGTTGGGC 600

GACTGGGCTG ACTGGGTGCT CGGAATTGGC GGCGTGGACT TCCGGAGGT CCCGACATG 660

5 AAAGGCCCCG GTGGAACAGA CGTTGCCGC GTTT 694

(2) INFORMATION FOR SEQ ID NO:1079:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 675 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1655UP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1079:

30 GATCTCTCTG ACGGCCCCCA AACGCTGCTC CGGCGACATT GACACTGGTG TTACCAOCCA 60

TTATGTGGGC GCGCGTTTCA TCCAGATGC CCTGGCCCGT CGTCATGGTT TTGATCGTT 120

35 CCGTACTCTT GGCACCGATC AAATACTGGG TATTTGAGTG CATATGCTT TATTCTATAG 180

TCTGGTACA TAAGCCGGGG TTTCAGAGGG CGGTTAACA TGACGGTAA CGTTTCTTTT 240

40 TCGTATATG TAAAAAGAAA TGTGCAACA TTTTTCATGA GATGAAGTT ATACTGGCTT 300

GTTTCTCTCT TGAAGTCAGC AATCTCTAAC CTTTGAAGGT GATTAAATAGG CTGTGGGTC 360

45 GTGTGGAAC ATTGAAGGAG CTTTGCTTGT TGTAAGGAT TAATCTGTGT TCGAGTTTC 420

ACTTTCTCGA ACTGGTAGCA GGTCTGACCG GTCTGGAAG GGCGTGGAG ACTTGCAAAT 480

50 ATAGGCGCAA GACAACCTOC GAGATACAGG GGAGCTGCTG CAGCGAACAG GTGGAGTCCA 540

GCGGATCTT GAGGACTAGC TGCTCTGGGA CGAGATGGCG AAGGAAAGCC TCGGATAGG 600

55 CGTAGCAAGC ACGGAGCCCA AGCGGTGAA GGTGTTCATC CTGGAAGACA CGAGTGGAG 660

AGACACTGGG ACGGG

675

5 (2) INFORMATION FOR SEQ ID NO:1080:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 705 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1656RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1080:

25 GATCTAGCGA TCAATCGCAG CTAACAGATG CTCGTGACATT ATGCATGAGC GCAATCATGA 60
 TGGACACATC GAAGCTCAAG CATAAAGTAG AGGACTGGGA CATGCAAGCG TACGCCATCT 120
 30 GCAAAAGCGT GTTGACCAAT ATGAACGAGG ATGGGTACTA CAAGGCGATG AAGGCAGCAA 180
 AGAATGACGT AGATGGCTTC TCACTGATG AGATTCTTGG TAAGGACTAT AAAGAGTTGG 240
 35 TGTTCCCGAG CCGCAGTGCA GATCTAAGTG TTGGGTACC TACTGTGGTG CCTCTTTGG 300
 AATGGATGGG CGAGAAGTTC GCGGACAATG GGACTAAGAA GCTCTGGCAC AGTTTCCTTC 360
 40 TGGAGCATAA GTTAGATTTC CTGTGGTGC TCACAATTAA GAAGGCCAAC GAGGGTTTGA 420
 AACGGGAGTT GGCTATCATG GCCAACTCCT GCGACCGTGC GCGCCAGGTC GAGTTCTTGA 480
 45 TCCAAAGCCT CACCCAGAG TTGCAGTTGA GCAAGACCTC TGTTCTCTCC CCGGCTCAC 540
 TGTTCATTGA GACGTGGGAC CAGAGAATGC TATCTGCCAG TCGCAAGCAA ATAGTACCTC 600
 50 TCCTCAAGAG AACCGTGGCC GAGTTATAGC ATGCTTATGT AACTAAGTT CCAGTTACCA 660
 TCTTCCACA TCTCAGCGC AATGTGGGT TTGTGGTCTC CAACC 705
 55

(2) INFORMATION FOR SEQ ID NO:1081:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 670 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1656UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1081:

25	GATCTCTTCC TACCTGTAT TTCTACTTAG CAGGAACCTA AATATGTGGA AATCATGGCT	60
	AGTAGGATGT TTTTCTTACA ACACAGACAT TTACGCCAAC CAGAAGCTA AGGCATGCAG	120
30	TATCTCGGGG AGTATCTGCC TAGGATCGGC GTAATGCTAA TAGTGGTTGC GGGAGAGGCT	180
	GGTGAGGTG AACTGGGAAA ATTGGGTGG CATAGGTGA CTGTACAGT AAATGGAGCG	240
35	GGGAGGTGA TCGAATTGCC CTGTGAGGT GATCCGCTAG CGGGGCGCG TATTAGACAC	300
	TCCGAGGTG CATTTGAGT CCGGCTGAAG GGGTGAATG GGACTGAGG CGGGGCGCG	360
40	GACTTCACTA TGCTGGCTGC AGAGGACGG TGGGGCGGA AAGACCTGC GCGTCTGAA	420
	CTGGCTGCG CGGCTGCGA CGGCTGCTG GTTAGGGCG AACATGCAG CGGTGAGCG	480
45	CGATGCCCTC CGAGTTTGG ACGGAGCTGA TGGACTACTG GCCTGCCAC AAGCCTGGG	540
	AAGAGTCTGC GGGGCGACAG CAGTACCTGA CGAAATATAA CGGCTGCTG CCGGGGAGG	600
50	GGGAGCTGCT GGTGGGGAC ACATTGCTCA CGTGGGGA GGTCTGCTG TCAGAGAAGC	660
	TGGGATGAG	670

(2) INFORMATION FOR SEQ ID NO:1082:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 620 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1657RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1082:

GATCGATTTA GATTTCACTT TCAGGCACAC TAAGAGATGG ACTCCTTACA CTAGGGGTGG 60
 GCTGACGGGC GGCGTTGAAC GGTGTTTGCT CGACGGACAG ACTGTGTGTG TAAGGGGTGA 120
 OCTAGTAACA TCTCAGCTC TAGGTGAGGC CGTTGTACCT ACTTCAAACA ATTACACTTC 180
 GACTCCTCTA TTGAACGGGG AGCCATTGCA CAGCTTTGTT CCACCTTCTA GCTGGGTAA 240
 GAAGCGGTC TCTTCTCC GCGAGCGGG AACTCGTGT GCTTCAGCTG GTGACCAAGA 300
 GGAAGCTGTT ATGACCAAC CGCTGGAACA AAGGTGATG TCTTCAAGGC CACCAAAGGA 360
 GCTGTGCCC CCAAGTGGC TGAGAGAGCT AGTCCGTGG CACAATCAT TCAGAGGAAG 420
 GAATATCTTA TCTGTAAC AATTCAAAG TCGGACTTC CAGGCTTGT TCGCTGTGGC 480
 CCAAGAGCTG CGTGGGGCTG TCGAGAGAGA GGGCGTCTC GAATTGATGA AGGGCCGCT 540
 CTGACGACC ATATTCTATG AGCCATCAAC GGCACATCC TCTCTTTTA TCGGGCAAT 600
 GGAGCGCTC GGTGGTAGAA 620

(2) INFORMATION FOR SEQ ID NO:1083:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 578 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1657UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1083:

GATCAAGTCC TTCCAGCGGA GGCAGTCTCG CACCGCATAC CAGAAATGCA TTGGGCGACC	60
TAGCGGGATA TTCTGGGGC TGTACTCGGT CCAGGAAAAG GCGCAGCGGT GTGCCAAGGC	120
AAAGGCTACC ATCTCCAAAC AGAGGGCCAC ATTGTGGTAC AGTAGGCCA TGTGTGTGCC	180
CSGGAGTCC TGAATCACT TCAGGTAGTG GAGAAGCGTG ATKACCATAC CCTGCCAGTA	240
GGATGCAAAA ATGATCAACT TAACACATAA GAATTTAGGC CATGGTTTGT ACTTGGGCAA	300
CTGGTTGTAC AAGCACTTC AGAAGAGCGC CAAGTTATAG AGGAGCCATG ACGGCTGGC	360
GTGTATACA AGGTCAACC ACTTACATC CAGATCCAC TCCACACCT GGAACGAGA	420
CATCCCAAG CAGTACCG GCTTGAACCA CAGTACTGT AGAATGCCCC GCTTACAGC	480
CAATAAGCC TTGGGGTGG CCATATGAC CATGGGCAAC ACCCAAGTC CCACACGGG	540
AATGGGTGC TGGATCCTT TGTGCTCGG GCGAAGGT	578

(2) INFORMATION FOR SEQ ID NO:1084:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 693 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1659RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1084:

5 GATCAAAAGT TGATTAACT AATAAAAGAA TTATTTTATG TATATTGATT GTATAGTCAT 60
 TTTCAGACAA AAATCGTGA AATTTTAGCG GCCAAACATA AAAGTCAGAC ATTAGAAACT 120
 10 GACAGATACT TTATTTACTG CATAATTACA CTAAAAACAA CTGTTCTCAA AAACIACCGA 180
 TTATTGACCG CCCCCCACT AATAATGTAC TCCTTCTATC GGTTTCTTGC GGGTAGAAGC 240
 15 ACGTAAAGAG ATCAGTTTCA CTTTGCAATT TGGGCACITT TAGGTTTCCA CTTAAGGATC 300
 ATTCTAGTGT ATTTTATGAC CAGGAAAGAA AAGGAGCCTA AAAACCTGAA GGCAGCCAGA 360
 20 CCAGCGACTG ATCCCAAGAC AAAAACCAAA TATTTGTTAT TAGAGGTTTC TTCAGGTGAG 420
 TATATTGGG TTATCATCAT GATCAAAATC AAATTGGAAA GCATCCATAA CATGACAATT 480
 25 CTAGTCCGCA CATCAGGTA GTGATCTGCT TGCTTTTGA TAGGATCAAC TTTTATTCT 540
 ACCACTTCAT CCGATTTAG ACGACCTTGA TTCTCTGTA TTTATTATCG ATGTCTGTG 600
 30 GCCATTCAGT ACCCTCACT ATTGTTTGC CACGGGCCCC TGGGTAACCA TAGCTTCAGA 660
 CTTTGGCTTG GACCCCTGGG AAGGGCCTTT TGT 693

(2) INFORMATION FOR SEQ ID NO:1085:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1659UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1085:

5	GATCGAGTGG TCACCCAGGT AGTCTGGGC CGGCTTCACG TTGGGCGCG TOGAGAAGTA	60
	GACCCGGTAC TGCTTCACG CCTCTTCAC CTCTCTAG CTGCGGTCA GCGCCAGAT	120
10	GTGGGGTGG AACTGGGCA GGTACTCTT CAGCACGC GGCGGTCC GCGCAGGTC	180
	GCACTCAG AAGATGGCT GCACTGAT GCGCGTGT TTCACTCG GTAGCCAGC	240
15	GCGCAGTTG TCAGCTCG CAGGCGAGT GTCGGCGC TCGTGAAC CGAAGTACAC	300
	CAGCGAAG CCGCGAGAA GGTCTCTC CTGGAACG TTGCGTGA AGTCCACG	360
20	CTGGAACGC CCGCCACG CCGCGCGC GTACCGCG TTGCGCTCG CCTCGGCTG	420
	CACCTCAG CCGCGTTCT CCGCGAATA CAGTGAAC AGCGCGCG CAGCCACG	480
25	AGCACCGCG CCGCTTCA CTGTGTAAC TGATCGCC CCGCTGAC CCTCGGAT	540
	GGTTTCTG CCGCGCAG GGCATCGC TCAACGCG CCGCTGCG GCGGCTCTG	600
30	GCGCGCGC GCTCTCG TGCCAGCG TGTGCGAG AACTCGCA CCGCGCAAA	660
	CGTCTCTC TGCTTCAA TTCCGCGC TTGCTGCA ACAACGAT CTACTGATCA	720
35	TCTCTG	726

(2) INFORMATION FOR SEQ ID NO:1086:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 720 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1660RP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1086:

5	GATCAATTGG ATGCCAACCA AGATGAAGAC CATCTGGGTG AGTTAGCAGT GCACCTCTGG	60
	GATACATGGT CTGAGACCGA TAGGAATCTA ATTTTGAAAT TATTGGCCAA GTTCAAGAAT	120
10	ATCAAAGCTA TTTACAAATC CGAAGATGTC CGCCAAAGGT TGATGGAAAT ATTGGGTAGT	180
	CGAACCTGG AAGTGCAGAA ACTGGCCCTA GATGGTTGT TAGCATACAA GGATCCAGTA	240
15	GCTGTGAAT ATAGGGACAA TCTGAAGAAC TTATTAGATG ACAGTTATT CAACGACGAA	300
	GTAACAAAGT TATTTGCTCA GAATGAGTCA AGGGTTATTG TCAACACTGA TGAAAGATTA	360
20	TTAATGCCCT TCATTTTGGG TATTTTATTT GCGCGTGTTC AGACAOCTAA TACCAGTGGG	420
	ATCAAAAAGA CAAGAAAAC TCGGTCATA ACTGTCTGC CAAATTTAGG TGAGAAGAAT	480
25	ATTACTGACT TCTTGGCTCT GGGTAGTAAT GGTATCAACT ACCAGTACTT CTTTGAAGAG	540
	AATCGGTTA TTCTGACAG TGAGCTTACA GCGATAAATT TTAGGAGAAT GCTTGGCTTC	600
30	ATAAATGTCC TAAGTGCTC GTTGAATGTT TTAGGTCCA ATTTCCCGGA GCGGTCAG	660
	ACAACTATTA AACCTCTGT TTACGCAATT CACATGTCAG GTCGTACTGG ACAGAATAAA	720

(2) INFORMATION FOR SEQ ID NO:1087:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 651 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1660UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1087:

5 GATCTTATAG ATTTTCATCC CCAAGCTTAC AAGAGAACG TTATCCACCT GTTTTAGCCA 60
 GGCTTGATG TATTTTCAA TGGTACCAT GTTCTCTGG CCCAAGTCT TGAACAAGTT 120
 10 AGTTAGTAGC AGACTAGCCA TCTTCTGCA TTTAGGAGAG TGTTCATTTA CTGATAGGTT 180
 TGCTAGGAC ACGAAGAATG AGGATGAAAG TTTCATTAGT AAAGCGGGCC CAGATTGTT 240
 15 GATCAGAAGG TTAAGCAATT CCATAACAGA TTGAAGACCT TCTTGAGATG GATACTGCAA 300
 ATTGTTGACT AAAAATTICA ATTGTTTTTC CAGCTGCTT TACTTTGAT CATATTCCAT 360
 20 GAAGAACTGG TAATAGACAC TCTGGCAAC ATCCCTGATT TCCTTAGCAT GATTGTGAC 420
 CATGACTTCT GCAAGTTAT CAATAATATC GTACAGCTTC GGAAGAACAA TATGTTTGA 480
 25 AACCAAGGAT TTCAAAAATC CAAAGCCAG AACTTGCTTA TTGGGCTOCA TCAAATCTGG 540
 TTCAATCCGA CCCAAACAT ATTCGAGCGC AGAATCCTT AATTCATGT CTTTATAGCG 600
 30 GATAAGCGCA GATAAAACT TCAGACCGAC TTGACAAAGT TCACCAGAAG T 651

(2) INFORMATION FOR SEQ ID NO:1088:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 96 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1663RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1088:

55 GATGCGGTT TCATCTCCC ATACTTCATC ACCGATGCGA AGGCCAACAA GTTGAATTC 60

GAGAAGCCAC TGTTCCTTTT GTCGAGAAG AAGATC

96

(2) INFORMATION FOR SEQ ID NO:1089:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 583 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1664RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1089:

GATCCTAGGG TGGTTCATGG CACTGAGCGG GAGTGTCTCT TGGACCGGTC GAACCGCAGC 60
 AAGAGTCTGA AGTCCTTGAA CGGTCTCTG GAGCGGCTGA AGCGCAATCG GCAGGCGGGG 120
 TGGATTTTCC CAGAGGBCAC GCGTGTGAC ACAACGGAGA TGCAGCTGCT GCCATTCAAG 180
 AAGGGGGCGT TCCACCTGGC GCAACAGGCG CAGATTCCGG TGATTCCGGT TGTGATGTGC 240
 AACACGAGCA CGGTGTCAA CCGCGGGCTG GGCATCTTTA ACCGCGGCAC GATCAAGGGG 300
 AAGTGCTGG AGCGATCGA CACGGCTAAC ATGACCAAGG ATGAGGTGGA CAAGCTTGTG 360
 AGCGAGTGC AGGCCAAAT GCATCGGGAG TTGAGGCGC TTGGCTAGGC GCGTGGATC 420
 GTGGACCGA GCCTACCGA AGAGCGCTG CGGCGGAGT TTGTGGACTG CAAGGAGAC 480
 ATCAAGGAGG TAACGCGCCT CTCGAGTAA CCTTGGTTGG TATCATATAA ACGTTGGGAC 540
 GAGTTATGTA CATATAGGCG TGCTAAGTAG GCATTGAGTC CCC 583

(2) INFORMATION FOR SEQ ID NO:1090:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 598 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1664UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1090:

GATCCGACTG	ACCGTGAATA	GGCCACCGTA	GCATGCGCGG	CTGAGCGCGC	TGGCGAAGCA	60
TAGCAGCGGT	CCTTCGAGG	CTCTGGTGGC	CAAGACAACG	ATCCACTGGC	CCACCAGGCC	120
CAGTAGGAGG	ACTGCCCACT	GGACTGACAT	CGTCGACACA	CGTTGTGGA	TGCAGAGGTC	180
AATTATCAAG	CCCGACAGGA	AGCGCGAGCA	CGTCGAGGCA	ATCGCAAATT	CTGGCAGCAC	240
CGACGCGTGG	CCCAACAGGC	TGCACAGGGA	GCCCATGTTG	GTGAGGAACA	TCTCCATGG	300
GCCCAGGAC	AATAGCAACA	CAAGGGCCAT	GAAGTACGCC	GCTGGGTCTG	GGAAGAAGTT	360
GCGCAGCGG	CGGCGGATGT	CCTGCGGCAG	CAGCGGCTCG	GTGGGCTCT	GCATGCGCGC	420
GAAGGTCACT	GTGCGGGCT	TGACCTTGAG	CATAGTGACG	ATGCTGTGCG	CAAACCACAT	480
GCAGAAGCTG	ATCAGCGTAT	ATCGGACAGC	TAGAGTCCTG	AATACAGAG	AAAGGTCAAG	540
GTACGGCAGG	CCATTTCCAA	AACCATGGTA	TCTTCAGCAG	CTGCGACCTA	GCACAGAC	598

(2) INFORMATION FOR SEQ ID NO:1091:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1666RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1091:

10

GATCCTTGCG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTTGTAGA AGATAGAAC 60

CATACTGACT CACGTGTAT TTAACCATC TCACGTAAC TTTTAATTGA CGAACAGTCA 120

15

AACCTACTT AGCTGTACA ACCAAGAGGA TAGGTTGAGT CGACATCGAG GTGCCAAACA 180

TAACTTACAA TAGCTACTCT ATCGTTATAT TACCTGTTC AATTTTGTTA TCATAATAAC 240

20

ATTAAATTAT TATTTCAATA ATTCTCATTA TTGTTGAGC TATTTCAAT TGTATTATT 300

ATTAAATTAT ACATATTGGG CTTTGTGGA TATAATTATT GTTAATCTTA CTCATATATC 360

25

TAGTGTGTA AGTTCTTAT AACTTTATAA AAAGGATGTG TATAAGCTTC GCTGCAGATT 420

GTCTTTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAAOCAA TTTACTCAAT 480

30

ATATTTAAT ATTGATAATT AAATTCACA ATTAAATGGG ACTATTAAAT AATCCCTAGC 540

GTAACTTTAA TTGTTATCA AATACATTA CAATATGAT ATTTTGTTC ATTATGOCOA 600

35

ACTTAGGTTA TTGTTCTACT TGTAGGTAAT ACAATTATAG CACAGTTATA CCATTATATT 660

TATTTAATAT ATTATCCCTA TATTATGTTT TATTAACATA TAAACTGTA CAT 713

40

(2) INFORMATION FOR SEQ ID NO:1092:

(i) SEQUENCE CHARACTERISTICS:

45

(A) LENGTH: 677 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1666UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1092:

5	GATCCTTATA AAATGGGCAA TAGACGTGTT ATAATATAAT ATACAAAATT ATAAATAAAT	60
	ATTTAATAAA ATATAAAATT AATAATTAAA GTATTATAAT AATTAAATAA ATTATTTATT	120
10	AATAAGTATG GATTTTAAAC TGAAATTTGT TAAATGAAA TAAGAAATGC TAGTAATCTA	180
	TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTTTGGCA CTAATCCTC ATCAGCGGTT	240
15	GAAACATATA ATTAAATAAA GAATATTAAAT TAATTIATTA ATTATTAATT ATTATTAATA	300
	TTATTIATAA AATATAATAA ATATTTTAAAT TTAAATTATG AATTAAATGG AAGTTGAAAT	360
20	ACAGTTACTG TAGGGGAACC TGCAGTGGGC TTATAAATAT CTTTAATATT CCATTTTTAT	420
	AAAATAAATA TATTTTTTAA TATATTTTAT AATAACTATA ATTAAATAGT TAAATTTTAA	480
25	ATTATAATTT AATAATTTAA TAACTTATTA ATTAGAGAGT TAGGGTACAT CCCCCCTAAT	540
	GCTATGCATT ATGGTTGGTA CCACTCTAAT TAATAACTA TAATAAATAA ATACTAATAT	600
30	TTTATATCAA TTAAATTATA ATTATTTTTT ATTAAATATT TAATATTATT TAATGAAATA	660
	TATAAATAAA GTATTAT	677

(2) INFORMATION FOR SEQ ID NO:1093:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1667RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1093:

5 GATCCATCGT GGIGTCGTTT ATTACCTGTA ATTCCATTGA TATCCTGGCT ATGCAGTGCT 60
 GGAAACGCTC CTCACGGGCC TCTATTTTGT TATTCAGCTC CAAGTACTCC GCGAGCTTAA 120
 10 AGGTCAACGA GAGCGACCTT GGATTGCACC TGACGGCGAT CTCAAGGACC TTCTCGTGCT 180
 CGTTCTCGTC CACAAACATG GGTAGTTGT ACCATATCTC CGGCGCAAAG CACATGTGCT 240
 15 GCACAGCTG GCGTGCACG TATTCACGC GCTGGCGCAG CACGACTTCG GGCAGGTGGA 300
 GCTTGTGTGTC CAGCTCCAC TGATCCACT TGTCCAGAT CTCAGCTGG TACTCATGCT 360
 20 ACTGACCGGG CGCAGGCAGG TTCTGCTGTG TGGCTGGTT TAGCTTGTG GGCAGGAGC 420
 GCGCAGGCC CTGTGTCAGG TTGACCACT CTTGGTACAG CGAGCGGCA TTCATGTAGC 480
 25 TGGCGAGAG CTCGCCATG AACTCCGGG CGTCAACTG GTTGACCTCC TGCTCCACT 540
 GGTGTATTT CTCACGTAC CGCTCCAGG ACTCCACTG CAGGCACAGC AAGGCGCTTG 600
 30 TACAGCTTC GCAGAATCTC GACCCGCTC TGCTCTCC ACTTGCTCAC CGGCTTCCAC 660
 TGCTCCAGAA ACTGCAGTA GTCTGCAG AACTGCATG ACCGGG 707

(2) INFORMATION FOR SEQ ID NO:1094:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1667UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1094:

GATCTAAGGG ATGGGTGACT GCTGCCGGTG CTCACAGCAG TGGCAAGTAG CTAGTAATGG 60
 5 TGGGAAATCG ATCAAAGAGG GTGGGTCTGG CGGTACAGGC AGAAAGCAGC CCGGCCGATA 120
 CAAGTCCAG TTCTACAAGC ACCTGCAGTT CCAGGGTAGG AGGTACCAGG TGGTGAATTC 180
 10 GCGGCCGTAT CTGATAGAGC GGTACGGGGA GGGCAAGGCG GGCACGATCA GGTGGTTTGT 240
 CAAGTGCATC CATCGGAAA TCAACGACGA TTGACACCG ATCAGCGAGC AGCGGGTGAC 300
 15 GCACGGGGTG TCGAAGTGGG AGAAGTGA GCTGTTCTTG CTGCTGGTGA CGCTGTGGCA 360
 GCGGGGGGGG CCGGAGTACT GGCTGGACAA GACGAACGGG TGGCAGAGCC GCGGGGGGGG 420
 20 AGACGGGGCG CGGAAGAGCG ACGAGGTGGA GGAGGGGGGG AGCGGGGGGG GGCAGAGGCT 480
 CGTCTGCACA CTGGTGAGC AGATCATGGG CGAGAACATC ACGGAGGACT ACGACGAGG 540
 25 CGTGCACGAC GAGAACTACG TGTTCCTGTC GATATGGGCG AACTTCATGG AGGGGTGAT 600
 AAACCACTAC CTAGAGAAGG TCATCATACC CAAGTCCGAG CTGAAGGTGT GGCAGCAGCT 660
 30 GTACCAAGCC GATGATGAAG ATCATCTCAC TCTATAAGCA ATACAACGAG CTCATGGACA 720
 AGA 723

(2) INFORMATION FOR SEQ ID NO:1095:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1669RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1095:

5 GATCAACAGC ACCTCCACCT GCGACAGGTC GAACTCATCG TAAAAAGGCA GCGACGGCAT 60
 ACCCTGGTGG GGGGGATGCA CACCGGCATC CAGCATGACC GTCTTGCCCT TATACTGCAA 120
 TATATGGCAT GAGGTGCCAA CCTCATGTCT GCCCCAAGC CCGAAGAATC GGAACGAATT 180
 10 CGTATCTAAC TTCTCCTCG TCATCCGCAA TTGTTTTATG TCTGCTGCT GCGAGGTGCT 240
 GTGCTCTCTA CCCAATGCCCT GCGACACTGG CTACTGAGAC AATTCCACGT AGCTGCTGCT 300
 15 GCAACTTTTT TGCAGCTATG GAAATACCGT GGTTGGGTAG ATTTGATTCT GTGGAGATGA 360
 ACGATCAAAC GGGAACTG GTTATCGGTG ATGGGTGTG TTAGTACCCA ATCAACCCCA 420
 20 GAGACAAGTG CCACTATTAA TTGTAGTACT TACAGGAACA CCGATGCAA GAACTCTTAA 480
 CGGCTCCGTT TACCAACGAT CAACACTTTT CTCTCGAAC GTTATGCTGT GCGGCGGTGG 540
 25 CGATTGCGAA TGATTGTGA ATTGAACCAG AGAGCGGAAA ATTTTGGTTC TCAAGTGACC 600
 GTATCTTACA TAAGCTACTG AACTATATGA AATACCGACG TTGCTGAGG ACGCTAGCG 660
 30 CAGTGTCTCA AGCAGTATC ATGAGATTGA GTTGTCTGA TGTGTACATT GAGAGTACTG 720
 GG 722

35 (2) INFORMATION FOR SEQ ID NO:1096:

(i) SEQUENCE CHARACTERISTICS:

40 (A) LENGTH: 675 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50 (A) ORGANISM: PAG1669UP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1096:

GATCAACAAG TCGAACAGCA AGGTGCAGTT GCGCCATGTG CCTCGGGGA TGTGATTGA 60
 5 GTGCCAGGCA ACCCGCAGCC GCGAACAGAA CCGCAAGCTG GCGCGGAGA AGCTAGCCGC 120
 CCGGCTGGCG CAGCCCCCGG GTAGGCGCAG CGAACGGAG CTGGCGTTGC GCAAGTGGGC 180
 10 GCGGCAGGTT AAGCAAGGCG AGGCGCGCAA GAGCGCGAG AAACAAGAGC GCGCCCGGCG 240
 CGAACGGAG GAGCTGGCG GCGCCCGGCA CCGGAGGAC GCGAAGTTC TGGTCAGCT 300
 15 GCTCGGAAG CCGCCCGCA CCTCTAGTG CCGCGCGGG CCGCGGGGG AGCAGGGGC 360
 GTCCTTTTGG GCAATTCCAA ATAGACACC TAGTGGCTC TGTGCGCGC GAGCGCAGG 420
 20 CAGGCAGCTA GCACACCACC GTCCAGGCG AGCGCTTTTG CTGGCGAGTC GTCCCGCAGT 480
 CCGCTGGCTC TGGTGTGCAC ATGCGGCTCC GCGTGGCAC CGCAGTGCAG AGCTACCTAC 540
 25 GTAGSTTTGC AGGCTTCCCA GTACGCTGA TACTGGCTCT GGTGAACTT CCGACAAGA 600
 GTAAAATCTC ACCAAAGAAC AAAAGATAT GTTAGTGAGG ATATCTCACA TTCTGTACT 660
 30 GGAAGTACAC AAGT 675

(2) INFORMATION FOR SEQ ID NO:1097:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 697 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1670RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1097:

55 GATCCGGCAA GATCGTCGTT CAGTTGACCG GCAGATTGAA CAAGTGGGTT GTCATCTCTC 60

CAAGATTCAA CGTCAAGATC AAGGACGTCTG AGAAGTGGAC TGCCAACCTA TTGCCAGCCA 120

5 GACAGTTGGG CTACGTCATC TTGACCACTT CCGCCGGCAT TATGGACCAC GAGGAGGCCC 180

ACAGAAAGCA CGTTGCTGGT AAGATTTTGG GTTTTGTCTA CTAAGCGGCT GCTATATAGC 240

10 GSTATCTAGCT CTAATGTACG ATACTCAGTG TCTATTACGA CCGCCGGGAG CTCACGGGCG 300

CACATACGAG GCCAGCCCGC GACGGCAAGC GGAATTGAG ATGGGTTAAT TAGCAGTAGA 360

15 TTAGTAGTAT ATATGTACAA ACAGCATACA CATGAACGC GTGCGCGATC ATAATCTTCT 420

AACCTCTCTA CCACCCCTCT TTCTGGTAGA GTGGGATGG ATAGGAGTGA CGTCTCTGAT 480

20 ACGGCGGATT CTCAAGCCGG ATCTGGCCAA AGCTCTCAA GCAGCCTGAC CACTGGAC 540

TGGGGTCTTG GTCCTGGTAC CACCGGTAGC TGTGATCTTG ACGTGCACAG CAGTGATGCC 600

25 GACCTCTTA CACTTGGCAG CGACGTCTG AGCAGCCAAC ATGGCAGGT ATGGAGAGGA 660

CTGTCTCTG TGGGCTTGA ACTTCATAAC ACGGTA 697

(2) INFORMATION FOR SEQ ID NO:1098:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1670UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1098:

GATCTATTTG TGCCGTCCG CATTAAGCAA GGGCAAGCA TCGATCCAAA TCATGAGGT 60

55 ACCCTGGGSC TTTCACCTTC CAAGCCTTGA TCAACAAATC TGGTACAGGA TACATCCATC 120

GCGACAGCAC ATATACCGA ACGGAAAGC CGACAAGATG GCACTAGACT CTGGTAGGTA 180
 5 ATCTGAGTTC GACCATATCC ACTTCGTTAA TGGTGATAGT TGATAAAAG AAACGATACT 240
 GAAAATTTTA ATGGTTACCA ATCTCATCTC ATCGGCATAC TGAAGAATA TTGTAGGTCT 300
 10 CGCAGTGGAA CAAGGATCAA GCCCAGGCTA AGACAATAAT GGTTCAGCG GAGGCAGTAC 360
 AGGAAGTACC CCCAGATGAA GAAGAACTGG CCTTCGCTAA GCTAGTGTTC GCGACACAG 420
 15 CAGACTTCCA TGAAGGCTG CGAAATGCAG ACCTTAATTA TGTTCCTCA GATGAAGACG 480
 TATATGGCCA GGAGTCGTC AGTCATGACG AAGAAGGAC TGAAATGCT CACCTGAATG 540
 20 ATGACCAATT GTTTTGTG GACGAAGTG CAGATACCA GGAAGACA GATGGAGAAC 600
 CGAGGCCAT GGAGGTGGAC CAGGTTAGG AGGAAAGCA CTCGGAGAG GAAAGCGTA 660
 25 GCAGGCTGC ATGGTCAGAT TCGATGACG AACCTTAA CGTTACAATA GGG 713

(2) INFORMATION FOR SEQ ID NO:1099:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 743 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1671RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1099:

50 GATCGCTTTC AAACCATCCT GTAAGTACGC TGAACACAC TTTACAAGAC AACGGCATAT 60
 CGACAATCAC AAGACTTCTT CGAGACATCC CCGCCACCA TCTTCATGTT GTACTGACCG 120
 55 ACTATAATCC AAGTGGCCAT TTGAATTCG AGCATGATCC CAGCTTTTC AACCTGAGCT 180

CGAAACTGG AGATGTACAT CGGCTTCCA ATTCTCTTC GAGTTTAAAT GGAGCACAAA 240

5 AAAGGGCTAG CATCCCAAAT ATCTTAGGCT CTGCTGACT TAGTAATCAA TCAAGAACTC 300

CAGACAACCG TTTAACACAT GGTACATCGA TCCATGAGAA CCGCGGTGA GAATTAAACG 360

10 GTGATCAGTC TTACTCTTT GCGGTAATA CAGGGCAGGC ATCGGGTAAC TTGGCGGGTG 420

TTTACCGGC CGAAACTCC CGAAGGAGCA ATTGCAATGA TCAGAGCCAA TATAGATTAC 480

15 ATTCCAAGC TTTCATTGG ACTGCCCTC CAAAGAACC TTCTAAGAAC ACTAGTCCAG 540

GTACAACTGT TGCACCTGG AGGTTGTGTG GTACAAACAC AAGGAACACA CAACGTGGAC 600

20 CCACGGGAGA TGCTTCCAA GAATCAGTGG AACAGCCCA ATCAGCTTGG CGGCAATCG 660

ATGAATCTAG CGCAAGAATT ATGTGCGCTA GTCATCATAC GGAGCCAGTA GTGTCTGTTT 720

25 CGACAATCTC TTCTAACACA CGC 743

(2) INFORMATION FOR SEQ ID NO:1100:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 661 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1671UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1100:

50 GATCAGGGAT GCGGAGGACA TTCCGCGACG TTATCGGCGA GCACGACCTA CCGTCTGGA 60

ACTATGTCAA GTACGGCAAG AAAGCTATTA AGGCTTCGG CTCTCGCCA GACGCATATA 120

55 TTCAACAGAT CATCAGCTA GGCATCTACA AGTATGTGGG CAGACAATTG CCAACCTACG 180

AGGCTGGGTC GACCAGAAAG TTCTTCAAGG GTAGGACCGA AGCGGGCCGC GCGTTTCTC 240

5 CCGCCTCCGC CAAGTTTGTG AAGACTTGGC AGTCGCCCGA AGCATCTCCA AGTGAGAAGA 300

TTGCTGCTCT ACGTGAGTCT GCTAAGAACC ATTGCTGCTT GCTAAAGATG GCGGCGGACG 360

10 GCCAGGGTGT TGACCGCCAC TTCTTGGGTA TGAAGAACAT GTTGGGTGAT GCGGAGGAGC 420

ATCCTGCACT CTTCGGGAC CCGCTGTTC AGCACTCTTG CAGGTGGTAT GTGTCTACCA 480

15 GTCAGCTATC TTCGGAGTAC TTCGAGGGAT ACGGCTGGTC GCAGGTGAAC GAAAATGGCT 540

TTGGTCTGGC GTACATGATC AACAATGACT GGTACACAT CAACATTGTT ACMAAGCTA 600

20 AGAAGTCGGG CTATAGTGTG CACGAGCTTT CACTACTACT TGACCGAAGC AGCAAACGAG 660

A 661

(2) INFORMATION FOR SEQ ID NO:1101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1672RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1101:

GATCGTGTAT TTGTCAGGOC CATCCAAGOC CTCGCCCGCA CCGAAACCCA CTATGATGGG 60

50 CAAGAAGTGC TCCAAGTTCG GATGGGCAGC CTGCAACAGT TCTGTGTCCT CCGCGCTCGA 120

GAAGAGACGA AGTAGTCTGC CGAATTTACA GCGGTGGGC GCGTGGGTA GCAGGAGGTT 180

55 GGACAGTGCC CAGTGAAAGG CAGATGAGCG CGAGTGGCTT TTTGGGATGG CAGATCCGCA 240

GAAGAGATCT CTCAGGTGT GCACAGCCAT GOCAGAGTT ATTATCAACC CGCAGAGTC 300
 5 GCGTACCTG GACAGGAGC GCGGAGCG ATACTGGTC CCGAGGTGT TTCCCGCGC 360
 CAGTGATATT TGGACCAGC GTACCGGAC ATCCCAATG TCATCCAGC ACTTCGAGC 420
 10 GGAGAAGCA ACTTTTAGG GGACCAAC GCCATGGTCT ATGCCGGTT CTGTGAGCAC 480
 AGGCGATAGC GGGCTGGTA TGTGGTTGAT GGTGTCCCG ATGTGGGTAA CTAAAGCCAT 540
 15 GCTTGATTG CTATGGAAT CCTCTCGTA CATCCGGTC GAGAAGCCAT AAAAATGTA 600
 TATCAATTCG TTCTCCAAG GGT 623

(2) INFORMATION FOR SEQ ID NO:1102:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 694 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1672UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1102:

GATCCAGAT TAGATATTAC TTAAAGTTC CACAGCTTTT TGATGGCTA GTTCTGCTC 60
 45 AGGTCTATAA TGGTCCATG CCTGTGCAT GTGGGATGA CAGCGACCG CGTGCTCGT 120
 ATAGAAGCC AAGGCATACT CCGCTTTGG TACCGGGCT TCGGAAGCA TGGATGCTTT 180
 50 ATAGGCCCC TTGTAAGATT CTGAAGGTT GGGTTCAGC AGGCGCTGA CACCAGTTAG 240
 GTACCAACCA CTCAAAGCA GCATAGCCAT GCATTTCCC TTTGGTCTG CGTTTCAGC 300
 55

CTTCAAGTAC CACAAGATGG ATTTCTCAGG GCTATACGGC AAGTGTAAAT CAGGGTACTC 360
 5 GTAGCACTGT CCCAGCTTCC ACTGAGCAAG CGGATAATTA AATTTAATGG CACATCTGAT 420
 GTAAAGGTCT AGAGCCTTTA GGGTATCTTG TGGAAAGTGC TGCAACTTGA CAGCCTGCTG 480
 10 CAGCTGTGGA TGCAACAAT CAAATTCATA GATCTTTGCG AGTTGCTATA AGCCTGCGG 540
 AGAGACGGTC TTGTCTGTG CAGCAGCCCG CTCGAACCAT CGTATAGCAG AAATGACATC 600
 15 CTGTTCACA ATAATTTCAC CTGTGTCAAT ATCCACCAGG CCATTCAGTT GGGACATAC 660
 CCAACTTATA CATGCTACTG CTCTGTCCCG AAGA 694

(2) INFORMATION FOR SEQ ID NO:1103:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 674 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1673RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1103:

GATCCCAGCT CTTAGGCTCG CTCGAATTGAA AACCTTTTCT ACACTAGCTT TCTTATCAAG 60
 45 GAAGGACGGC TAGTCTTAGA AGATGACGAT GAGGGCTTCC CGGOCATCCG ACCCAAGGAA 120
 CCCCCTCCGC AGGATCCCGC CGAAAAGGAA CTGGAACGGC AGGAGCGGAA TGAAGCGCGC 180
 50 CAGAAGCATA TCATCTTCCA AATGGACATG GCCACGTGGA GGAAGCTTAT AGACAAGTTC 240
 CACATCACAG AGTCATTTTT ACCGTGATCA TGTATAAATA GCGCGCATCT ACGTATCACC 300
 55 CGCTGGCCCG GCGCTGACCC AACCAAGCAC TGCTAGCAGC TCATCTATCG GCCACTTCGC 360

AATGGTCAGC GCGGCAACGT CTGTGTCAG GCGGTGTCC TGTAGAGCT CGATGCCCC 420
 5 CCAGCGATC ATCACCACAT TGTCTGTACA TAGATCTGA GCTGGATAGT GAAAGGAGTC 480
 GAACGGTCTG AATAGTTTCTG TCTCGAGTCT GGCACGCAGG CGCGGTTCG CGCATAAGCC 540
 10 GCGGAACAC ACAAACTGTG CCACATCAGC AACCTTATCA GCATTGTAGC CGCAGCACCA 600
 GGTTAATCTT GGTAAATCAA TGGTCGAAAT ATGGCTCTCT GAATCTGAAT TGCTGCTACC 660
 15 CGCGGTTCGG CCTC 674

(2) INFORMATION FOR SEQ ID NO:1104:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1673UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1104:

GATCGCTCTA CGAAGTACT GCATGCCTGT CTGTGCTCTA AGTTAAAAAC CACAGCACCC 60
 40 AATCGTTTAC ACCGCAATCT TAGACCAGGA GCTAGTGCTT GCGAGCCCCT GTCGTTCAAA 120
 TGGCAGGACT GTTGTTTGGT TGTGAACCTC GCGACTGAG GAAAGGGGGC GGAAGATCTA 180
 45 TTTTGCACTT ATTGCAACC GTTTAGATAT TGAAAGCAGG GCAACACTAG TAAACTCGA 240
 AATTAGACA TTGCTGAACA GATGTGAGCA GAGGATTCGG GATGCGCTTC GAAATGATGA 300
 50 GGGCGCATGC TGCATACCTT GCGGTGCGG CGTAGTGTAG ACCGTGCAGC GCATGCTGCA 360
 AAACAACGGC GCGGTGGGCT CGCATGCAG GTAGCACAGC AACTGCAGCA GCGCAGCGT 420
 55

GCATCCAAGA GTAACGCCAC ATGTGGGGGG CGTTGCTCCG TATGTACAAG TTATGTGATT 480
 5 ATTTCTACAG ATATCATGTT GAATATTAGC CCGGATCAT CTACTCAATG GTATGGTTTG 540
 GTCTATCTCG CTTACGTCAA GATGCAGGCT CCGCCCGGG ACTACGGGOC AGGGTGGCA 600
 10 GAGCAGTTTG GTATAGGAGA AGCATGATAC TGCTTTGGAT GCTGGTCCAG ATGAACCTGG 660
 GGCCACACC GCTGAAGGGG CCACCCAGTC CCTGTAGCG AAGTACGACT AACAGCTGC 720
 15 GGAAGA 726

(2) INFORMATION FOR SEQ ID NO:1105:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1674RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1105:

GATCTCATTG AGGTACACAG ACACAGCTGG CAGCGACGCC CAGGCTCGA TGGACGAGTT 60
 40 GGCGAAGCAA TCATTCCGGT TGTTTGCCAG CCTGTGCTG TGTTTGCTT TCCTCGTGA 120
 GCTCTGGAAC ATAGCAGAAC TACCAGGGA ATAGCCAGT GTAGATGTC GGACCTAAGA 180
 45 TATAGTATGA AAGTGCAAGT GTGCCACAAA GAAGAAGTCT TTGTGGTATG TTGTCCGTT 240
 CGTAGAGAAA GCTTCGACC TTATTAATAG AGAGTGTAAC GTGTAAACA GAAGAGGGT 300
 50 ATGTACCCCT GTGCAGCATG TAGATGGACT TGGTATCTA GTCAGCGTT GTGCTGAAG 360
 GTGGACCAAA CTAATCTTA GTGCATAGTA TTTATGTGG GGGGCTTTG AACAGGCTT 420
 55

TTGGGATGCT CGAAGGCCGA ATAATACTCC ACGTGACAAT AATATACGTC AACTATTAAC 480
 5 GGCTAAATTA TCCCTTGCGA GGAGAACATC CCGTTAATTA CAATTATCAT TCTATATTAT 540
 AAACATATTA TAAAACGTCC ATCTTGCTAA TATAAAAACA ATCTAGGTGG GCTTACCAAC 600
 10 CATATTACAT CAGTAGGCAG CGCGATCTGC ATCCGTCATG GCGTGGAGTA TCCAGTT 657

(2) INFORMATION FOR SEQ ID NO:1106:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1674UP

(c) SEQUENCE DESCRIPTION: SEQ ID NO:1106:

GATCATCATC AACTATATCG AGAAGGAGTG TGACCGGGCC GTTGCTATGG GTAAATACCC 60
 GTCTACCCCTT GACCGGGAG CCGTCCGAAA GCTGGTGGCA AAAGATTGG AGAACTTCG 120
 40 CGTAACCAAC AGCCTCAGC TGAACAGTCT CTCCTATAC TTTGGCAAC TAACACGGGA 180
 GCAGCGGGAA ATATGCATAT ACAACAACCT CACCGACTGG AGCTTGCTAA TCTTCCGGA 240
 45 AGAGGAGAAA ACCAAGTACT GCAAAAGAAA GCAGGGTTCT TGTGAGAAT AACAGTAAIT 300
 GTAACATAT AATCTGGAGC TTCTCCAGC GGTAGAAGGT CCCAATTGT AATGTACTAC 360
 50 TACCTGAGCA CTGTGTCCG CCTCATGCT CCTTAGAAC TGTGTTCAA GAGCTGGAT 420
 GGCATCTGAC ACAAAGGTG CAGACGAGG AGAGTATATC TCCAAGCCT TGGGTTAACT 480
 55 TTCTAACCTA ATATTTTCCA AATAAAGCG AGTCCAGTG TATCACTGCT CCAGTCAGTA 540

GATTCTGACT TCGTAAATA TGTGTTCTAT GGGTGAACA TTTTAAGTCA TAGTTTTGCT 600
 5 TTTTCCCTTG ATATACTTCC AAATACATAT ATCACTGAAG TTCCATGGGA AGCACCTCCA 660
 CAGTACGGCC TAAGAAGAGC AGAATAATTG CTCCA 695

(2) INFORMATION FOR SEQ ID NO:1107:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1675RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1107:

GATCGGTGCA ATAAACCGCT TGAATGCACT GTGGAAGTAG TTGCGGTCT CGATATCAA 60
 GTGACAAAG AATATCTGCA GGTGTTAGC CAAAATGTCA AGCACATATC CAGGCACTGG 120
 ACGCGAGCCC TTATGCGAGT AAGTTAGCAC TTCAAATGCA CCGAGCTTGT ACTTGTGAT 180
 TCGCAGAAGG CTTTCCAAGC TCGACAGCAT GATCAGCTTG TCTTGTGGA ACGGCTCTC 240
 CTCTATCCCG AGCTCTGGC CAATTTTGG AAGCGGTAGA AGGAGAGCAG GTTGCCCTG 300
 CATGTTCCGC AAGATAAACA GATGGAAGAC CTTGGGGGA ACGGTCCGAA AGAGGGCTC 360
 CAGCACGTAT AGTTGCACTC GTTTGGGCA GGTGCCCTCA AGAAGATGCT GAACCACTG 420
 CTGCTCCAC AACTGCAGCC ACATCTCCAG TTTATCTCT GTATAGTGT GCACATATAT 480
 ATTGGCCAGC AAATCTGCA CACTCTTGC AACCGCTC GCAAGAGAT CCGACCAT 540
 GTATCCAGA GCGTGGCA TGAATCCG CCGACTCT AGAACAATC CCAGGTCAAT 600

CCGCTCCGAT AGCACGTCCA CCATGAAGTA CACGAACCTC TTTGAAGGAC TCAG

654

5 (2) INFORMATION FOR SEQ ID NO:1108:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1675UP

20

(vi) SEQUENCE DESCRIPTION: SEQ ID NO:1108:

25

GGATCCGCTT CCACACCGAA AACGCAGAGG ACCAGGACCG TGTCTCGAAT GTGTGTGGCG 60

AGGCCATCAC GCAAGTCAAC AGGCTCTTTG GGCACAAGG CATTCAAGCC TAAGTTCATA 120

30

AGAACATCGT GTTCGTCCAG CAGTCCGGCC TGTCCGTGCA GGGCCTCAGG TTCTGTCTCA 180

ACCACTACAA CTGGGTGAC GACACCCCTG GCTCCACCCC CGGCACTCC CCGGCTGTCT 240

35

CGCCCGTCAT GACCCCGGTC AATTCTCTGC TGGCCATGTC TOCAAGCAC GCAGCATCTA 300

AAACCCCTC GCGCGGACC GCAACAGCCA GCTACTTTAG CAATGGCGGT TCCACCAGTC 360

40

GCGTCGAGTT TGTCTGTGTC ACTGGGACTT CATCGCCGGT CCTGGAGCCG CTGTTCCAGT 420

CTATCAATGA ACTGGCCAAA AAGGGGACC TGGCCTACGG ATACACTGTC GCCTAAGGCG 480

45

AGGCTATTAC CACATACGCT AAAGAGCAG TGAAGGTTT CAACGAATTA TTTGGCATT 540

TAGACAACT GAACCTCATT GGCTGCTGAG CGCCCTGTG ACATAGGTTA TTAATCAATT 600

50

AAATCCTTTC TCTGGAACCT TATAGAGCCC TGCACTTGC GCTCCGAGC CATATCCTTG 660

CTGACTAGTT GTCAGCGGTA GCCTTTAATA AATTACGTAA TATGTGGTAT TATCA 715

55

(2) INFORMATION FOR SEQ ID NO:1109:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 568 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1676RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1109:

GATCCCGACA CCAGCATGCG CTGCTGAAC GGGTGAAGT CTGTGTCCAG CACCTGTGCC 60
 GTGTGCCCCG GGAACAGAGG AATTGTGCTT GGGGCTTGC CCACCTCTC CACCGGCACT 120
 ACGGCGAAG CCCCTCCGCC CGACGAATTC CAGCTAACG AATGAACCT GCCGTTCATC 180
 TTGATGAGAT TGGAAATCCA AGCATTCATT GTCACCTTGA GGTCTCTGTA GAAGAGTTCC 240
 TTCTTTGTG ATGTGCGAA GACGTGTCTA TACTTGAAG CCGGACAAA CTTCCTACTG 300
 CAGTCCCGTT AGTTTGGCGT CCGCACAAAG TCCAGTCTG GAGAGTATGA CATACCTCAT 360
 CCTTGCAATT CTTTGGGTT TAGCAGCTCT ATATGCGTGT ACACCGTAAA CATCGTAAAC 420
 TAAATATGTA ACGTGAACCT GAAGGTACT GGAATCTAAA GGGGAAAGAA GTACCGTTG 480
 ATGGTGATGG TACTGTCAAG ATGGCTAAAG CGAACCTCTG GCTGTGTTGG AACTCAGAAA 540
 GGTCACCAGA CTCTTCTTAT TCTTGT 568

(2) INFORMATION FOR SEQ ID NO:1110:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 568 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1676UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1110:

```

15  GATCGCGCGG CTGCTGCTC GCTGTATTA CTACGCCAG AGCAATGT ATACCCACA      60
    TATTGTAAAG TTTGTACTAT CCTCCATGGC CTGCCCCACC CGACAGCGG CTTTCTCTG      120
20  ATTGGGGTGC CGGTGGCGGC CGGTTTCAA CCTGGGCCA TGGCTGGGC ATTAGCTGCC      180
    AGTAGCGATG CAACCGAAT GCGAAGATG GAGCGGCAT TGGTGGGTAC GAAAAAGCTT      240
25  TTTACGGGTA CTGTTTGCTG GTCTAAGCA TCCAGCCAC GAGGCTAAC AGTATGAATA      300
    CCGACTCTTT TGGCAGCTG GACTTGTGC CGATCTCGG GTCCCCATA GCGTTTGTG      360
30  TGCTTCTATC ACGGTATGCA ATGTTATGAT GCGTGTGTC GCGAACATG WCTAACAGGC      420
    GACAGCGTGC TCGATAGCC GTGCCCCGG CTGCAGCGG CACTGACGT GTACACAGTA      480
35  GTTGTAATG CGTGCTAAG CGCAACCGG CGGCGCAAG TGGCAGCGG TGGACGCCAC      540
    TGGAGCAGAT GCGGACCGG ACTTGCGT      568

```

(2) INFORMATION FOR SEQ ID NO:1111:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 653 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1677RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1111:

5	GATCTGCAAT TAGGGCATAT AAACITGGG TACTGTGTCA TCACTAGTGG GCGTATGCAC	60
	TGGTAGTGGC AACTATGGCA ACAAGGGGAT ATGAAGATGG CCTGGCAGGG CTTAATTTTA	120
10	CATAGGCAGA TTGAGCAATC TTCTCTCTCA AGGCTGCGG TTAGCTTTTG TAGGTTCGGT	180
	AGGGGGCTTA GTGGCTCTTT GTTGAACGG TTGGCCCTTC GCTTCCAGCA TTTGTTCAC	240
15	TGACTCTCA TTTTGAAGCA TCTATATATC TCCTCTGTGC CGCCAGGAA ATCCATTCOC	300
	AGCTGCAATA TGTCGGCTC TTTCAGGGG TAGTCTTTGG ACATAACCGA TGCTGTGCA	360
20	AGCCGCATCT GATTAAAGAA CGTGGCGGAC GAGGACTTGA CGTGGCGCAC ATACCAATTG	420
	CCCTGCTCAT CCACCTTAAA CACCCCGTGT GTGGGGGACA CAACTTGGT CTGAATAAC	480
25	ACGGGGTGA AATGATCGG GAGGAGCGG ATGGCTTGG GAACCCGTC TGTGTACGC	540
	CGGATAACCA ACTGGAGCT GGGGCTGGG GTGGCAAG TGGATCAA AAAGAGCCCC	600
30	GGATTATTGG TGGTCAGTG GTCAATGAAC GCGTTAACC GGAGGAGAA GAA	653

(2) INFORMATION FOR SEQ ID NO:1112:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1677UP

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1112:

55

GATCGTGGCC TTAAGCCCTT CGCCGCTGTC GCTTGGGCAG CCTCAATGC ACTCGTCCG 60
 5 CGTGGGCTAC ATCCAGAGC ACTTCAGGC GCCTGTCTG TTTCGCAGA CGCTGGCTT 120
 CTTTGGCAG CGCGGCTCA CGCCAAAGT CGTCCCTTC CCTAGGGCT CTGGCCACT 180
 10 GATCCAGGGC CTCGACGGG GCGAGCTGA CTTGGGCTC GGCTCAGG AGGGTTGT 240
 GCGCGCATC GCAGACAGC CAGCCGGGC CGCGCGGC TACCAGATTG CCGGCACCTA 300
 15 CGTGGCTCG CCACTCAACT GCGCGTCTC CGTGGGCGC GCGTGGCCG TGGAGCAGT 360
 GGACAGCTG GACGGGGCC GGTGGGGT GTCAGGCTC GCGAGGGCT CTTAGTCTAT 420
 20 GAGCTATGT CTGGGCTGC AGCGGGCTT CGCGGGGCC TTTCGGGC ATCGGTGTG 480
 CCACACTTT GCGGCTGC GCGCGGGT CAACGAGG CGCGGGAC GCTTTCTGT 540
 25 GGGAGCACTT TACCTCAAG CGTACAG AGCGGGGA GATCGCTG CTGGCAACA 600
 TCCCCACCC CTGGGCTG TGGT 625

(2) INFORMATION FOR SEQ ID NO:1113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 643 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG167BRP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1113:

GATCGCTGT CGGCATCATC GGAGACATG CCTCATGTT CCGGATGGT AGGATAAAGC 60
 55 AATTGTACG CCAGACTTG GTCACAGAT TTATCAAGAA AACAAGAAT AACCCCACT 120

TTAGTCAGGC AACTAAGGAT ACTGCTAGAT GGGCTAGAGA ACAACAAAAG CATCAACTAA 180

5 CCTATAGCC TTACACTCCA GAATAATTTA TCTTATTACT CATTTTCTTC TGGTTATCT 240

CGCTCTCTC CTGTTATTCT ATAATACTTC COCTGCATTG TCTTCATTAT TGIGTCTGOC 300

10 TGGCGACAGA COGCTTCGTT GTCTCTTCTT TTGTTGAGCC CTGCACTGAC CTGGCCATGC 360

TGCTCTTTCT AGTGGTTTGG TACAGGTTGC GGGTCTTTTT ACACAACTTT TCTACTAGT 420

15 CTTCTATCTA ATCCCATCTA CTTTCTACT TTCTCTCTCT ACTTTATCGG TGGACCCGC 480

TGCTCGTCTT ACGTGGCAGC TTGTAGCATC TATATAATTG TATATATCGT GGTGSCAACT 540

20 ATCTACGGCT GCTATACATC TGCTGCCCCG TCTGATGGC CGAGCCGTC ACCAATGCAG 600

TAAAACCACA TAACTTTTA AGAGTTACAA GCTCAAAAAC GTT 643

(2) INFORMATION FOR SEQ ID NO:1114:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 721 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1678UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1114:

GATCCGGGTT CGAGTCCCGG GAGGGGCTGC AGCGCACCAG CGCTTCTTTT TGGGCTGGT 60

50 AGTCGAGGAT TGTGACTGCT TAAACCCATA CAACACATA TTGCACTGGT GCCTTGCCCG 120

CCTAGGCCGC CCTGGGCTC CCGGTAGCC CCGCGGGG ACCACGCAA CGAGACGTC 180

55 CCGGCCCGGC ACGGCGATCA CCAGCGGCAG CCGTGCAGC GTAGGCGGGA CAGCTGAAA 240

GTTACTACAA TTTGAGGTCT CCGATACTGA CACAGAGGGT CTTACACAGC ACCAGAAGAA 300
 5 TCAGCAATGG CTAAGCAATC TCTAGGTATG TGACAGAACG ATGGTGGCTC CGAAACATTG 360
 GGAATGAGCG TCTCTGGCGC TGGATCCGT GGTAACTGG GCATACGGCC CAGGGGCGAG 420
 10 GCGGACCTAG CATAATCCAG TCGGTGGAAC AAGTTGGTGG CCGGGCACAG TACTAACATG 480
 TCTGCAGAG TTTCTCTCGA CAGAAGAAAG GCCAGAAAGG CGTACTTCAA CCGGCCATCT 540
 15 TCGAGGGCC GCGTGATCAT GTCTGCTCT CTATCCAAGG AGTTGAGAGA GCAGTACAAC 600
 ATCAAGTCTC TACCAATCAG AAAGGACAAC GAGATTATGG TTGTGGGTGG CTCCAAGAAG 660
 20 GCCAAGAGG GCAAGGTCT TCTGTCTACA GATTGAAGTA CGCTGTGGC GTGACAAGG 720
 G 721

(2) INFORMATION FOR SEQ ID NO:1115:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 633 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1180RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1115:

GATCGTCTG ACGGTGGTGG AGTTCTGGAC AAACCGCGTG CTCTTTGAGC AGATCGTCCA 60
 50 GCCACTGGGC GAGATCATCG ACCTCTACAC CCAGTTCCAG GCGTCCAGC AGATAGACCG 120
 CGCTGTGGCG AAGACATTG AGGAGCGGAG GGAGGTATTT TTGTGGCGG CGATGATTAA 180
 55 CGAGAACAGC ATACTGATTG GCCACGGCCT GGAAACGAC CTGAAGTAT TACGGATTAT 240

ACATGATAAA ATTATGATA CAGCTATATT ATACCCGAAT GSTAAGTTCA AGTCCTCCCT 300
 5 CCGGAATCTA GCGTTTCAGG AGCTCAGTAG ACGGATCCAG ACGGGGAGC ACGACAGCTC 360
 AGAGGACGCC ATTGCAGCAA TGGACGTGTT CAAGCATAAG CTGGGCATCC CGCTCGAACC 420
 10 CAAGACGTGG TAGCCCTAAG GCTGCTCTC CAGCCGGTG AGCTGTCTT CAAGCTGCTC 480
 CTGCTCTCA ATTAGCGTGT GTATAAGCTG CTTAAGGTTC TGTAAC TCA TCGGATCAT 540
 15 CCTATCTTCT GGAAGCTGA ACTTGACGTT CCTGCTGCGG GTCACGATCT GCGTCTTGCC 600
 CACCTTGATC CTGATGCTT CCGAATTTT GGC 633

(2) INFORMATION FOR SEQ ID NO:1116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 706 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1680UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1116:

GATCGGGGCG CCGGGTGCGC GGCATTTGCG GAAGGGGCA CCGAGCAGAG GTGGGCAATT 60
 45 CGAATGCGAT ACGTCTTGGC CAGCCCGGAA AAAAAATTTT CCGCTATATA AGGAGAGGCG 120
 GCGTCTTGC TGCAGGCAGT TTCACCTTCT CTAAAACCAA AGAACATGA TTCTTTTAGT 180
 50 CACTGCTTC CTACACGA AATGCAATC TCACCGTGC CTTCATGCG AGCGCTGCC 240
 GCGTGGCTT CCGTACGC CAAGTGACC ACGGCACCG CCACAGAAA CCAGACACC 300
 55 TTGGTACCA TCACCACTG TGAGGACAAG ACCGATGCA CTGGGCACT CTCTCAGCT 360

TTGGTCTCCA CCGCCACCGT CACCATCGAC AACGTTGTGA CCTTGAGCGA GAAGCTGGTGC 420
 5 CCACTATCCA CCACTGAGGC TCTTAAGCCA CCACTTTCCA CCGCCAAGCC ACCTGCTTCC 480
 TCCAAGCGGA CTGTTCTCTC AACTGAGACC CAGTGTCTC CTCCTTCACT GGTCGCGCTG 540
 10 CCAAGGCOCT ACCAGCTGCT GGTGCTTGT TGGGGGCGC TGCTGCTTTC TTGTTGTAAG 600
 TTTAGTTCCG CCGGTCGAGC CCTGCTTTCG TTTAGAGATA TATAGGAAGT TATGTGACTG 660
 15 ATTCTAAGCT TTTACACCAG CATGATTTGG TTCTGGGCG CACCGA 706

(2) INFORMATION FOR SEQ ID NO:1117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1681RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1117:

GATCATCTTA AACAGATTAA CCTTCTCCA AATTACTTTA TTCTCTAAT CTCGATAAA 60
 TGGTTACATT GCGACAATAA GGTGCGCGTG GTGCTTACAG ATATACATCT ACCGAGAAAA 120
 45 TTTCGCGCAC ACACTGTAT AGAAGAAAGA AATTGATTG AACTTCTGA GCTAGATCCG 180
 ACGTTCAGTG GACTCTTCCC ATTTAAGGTT TTCAACAAAT TCACAACTCA TGTGTTTAAT 240
 50 GCTTGTACC ATACCGATGA AAATGTATTT ATTGGAGCTT GTAAGGGGCTC GGGTAAAACT 300
 GCAATGCCAG AATTAGCTTT ATTGAGTCAC TCGAGAGATG GTAAGGGAGG TCCCGTCTAT 360
 55 ATATGTCCAT CTCAGGAGAA AATTGATTTT CTGGTGAAGG ATTGGCGAAA CAGATTTTAA 420

AATGTGGCAG GTGGAAAAGT TAITAATAAA CTCACATTGG AATTAACTAA CAATCTTGA 480
 5 ACGCTAGCCC AGTGGCAITTT AATCTTAGCG ACCCAGAGCA GTTTGACCTG CTTTCTGTC 540
 OCTGGAAAAG AGAAAAAAC ATCCAGACAT TAGAGCTGTT GATTCTAGAT GATCTTCATA 600
 10 TGATCAGTAG TGACTTGCCCT GCGCAAGGT ATGAAAATAT AATATCCAGA ATGCTGTICA 660
 TTCGGGGTCA ACTTGAAAAC GGCCTTGGT ATAGTC 696

(2) INFORMATION FOR SEQ ID NO:1118:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 659 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1681UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1118:

GATCAGGAAT GATCCCTCAA TTGTCAGGAA TTATGGTTCC ATATTGGTTG AATTGOCOA 60
 GATTACTCCT GATGGTATGG TANIGTCTT CCCCATAT TTATATATGG AATCCATTAT 120
 TTCAACTTGG CAGACAATGG GGATTCTAGA CGAGGTTTGG AAATACAAGC TCATCCTGT 180
 GGAAACACCA GAGGCACAGG AACTTCTCT AGCTTTAGAG ACTTACOGAA AGGCTGCTC 240
 GAATGGGGC GCGCAATAT TACTTTCTGT GCGCGTGGG AAGATTCTG AGGGAATTGA 300
 TTTTGACCAC CATTACGGTA GGACTGTATT GATGATTGGA ATTCTTTTC AGTACACTGA 360
 ATCGGTATT CTAAAGGCGA GGTAGAGTT CCTAAGAGAA AACTATCAGA TACGGGAAAA 420
 55 TGACTTTTTA TCCTTTGATG CAATGAGACA CCGCGTCAA TGTTTGGGAA GATCTTTGAG 480

GCGTAAGGAT GATTATGGGG TGATGGTGCT CCGCGATCGG CGATCTCAAG AAAGAAAAAC 540

CAACTTCCAA AATGGATCGC ACAAGGGCTC TGTGATGCTG ACGTGAACCT TTCTACTGAT 600

ATGGCGATAG CTAATACAAA ACAATTCTTA AGGACGATGG CACAAGCAAC TGATCCGAA 659

(2) INFORMATION FOR SEQ ID NO:1119:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1682RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1119:

GATCGTAAAA TTGCTATAC AATGGTTTGG GTAGGTCTT TAAAAGGTGG TCAATCTCAT 60

AGTCGCTCAC ATCAAGGGGA ATGTTTAAAA AACCACTCT CTGATGTGTA GGCGGAGCAG 120

GCCTTGGGTC TGGCGGTCC CTGAACGTG AGCGCGCGA GGGGCGTAC TCTCGGGCC 180

GATACGTGCT TTCCCCAGA CCGATGGTG AAGCTAGTCC ATTACGTAAG TCTCGAGGC 240

GATATTGCTA TAATAACAAT GTAATCGTGA ATACTCAGC TCAAGTAAC TTGGGTGGG 300

TCATGTATCA CTTACGGTAG TAGTGGGTG TGCTTTTGT CGTTAGTAT CCGATGAAGT 360

TTGSTATGGA GGAGAAAAG ATGTTTATAC TTTCTACCA GTACCTGGT TCAAGTGTT 420

GTCAACAGAC ATTGTCCCTT CCAACTATC CTGTTTGAAG GGCAAGGCT GTGTGTCAAG 480

AACGAAGTTT TCACCATTTT TCGGAAGGC TGGGACAGC GATCGAAGA AATAGGATAT 540

ATACGTACAC CTTTCTTTAA ATATCATTGA AAATATCTG GAATTTGAT ATGTGGCAT 600

ACTGGCTCTT CAGCTTCCTT ATCCATGAGA TAGAAGGAGC AACTGTGCG AAGGTGCTT 660

5 CCACAGTTAC TTAAGTTTCC GTAAGCAACA AGGAGTCTGT ATGCGGC 707

(2) INFORMATION FOR SEQ ID NO:1120:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1682UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1120:

30 GATCCAGTGT GTACGGCCAG AGTCGGGCTG GGGCACCAGC AGTACCTGCT CCGTCTGTT 60
 GAAGTTGCCA ACATTCCCGT CCGCATCAGC ACGGCGCTG AAGTATCTTG TACCGGCGCT 120
 35 GAATCTGCTC CCGGCGGTGA TCAGACCCAC ACTAACTGGC GTACTCTGCA ACACAGTGTG 180
 TACCACTTTG ACGTAGCGGT AGATTAGCGG CAGAACGAAC TCGTTGGCCA GAGGTTTTC 240
 40 CTCGGCCAGG TTTCGCAGCG GCTCTGTGGC ATAGTAGTTC CAGAAGAACC GCGTGTCTGC 300
 AGTGGCCAC GAGGCTGGCC CCAACCCCTC GTTCGCTGC ACAGAGTGG TCAAGTCATA 360
 45 CGTGTAAGAA TAGTACAGCG TTGCTTTCG GAGGTGGTCG CCGAGTAGCG CAAGATACTG 420
 GTTGTCTCTT GCAGATGCCG GGATACTGGT GTTGACCAGC ACCAAGAGT GCGCGGTCAC 480
 50 TTTGAAAAGA GAATGGGCAC CCAGGTTTCC CACCACCTCC ACGCGGTCCG CCGTTAGCAC 540
 CACGCGACTA TTGGCCAAT GTAATATCCC GATCAGGCT GCGATCTTGC GAGTTTCTCC 600
 55 ATCTTTAGGG AAATTGCTGG GGTCTACGAG TGTCAAGGCC GAATCGTGAT GCGAGATAGA 660

CAACACCGCT TCACTCTGGG AAGTATTAGA TGGCTTGAAA

700

(2) INFORMATION FOR SEQ ID NO:1121:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 652 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1683RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1121:

GATCTATATC ACCAATCATC ATGGTTTGA AACATTGGT GCTTAAAAG GGACACAGCA	60
AACTACAAGC AGGCAGCAGC AAGCACTCTG CAGACTAAGG GCAGGCCTCA TCATAAGATG	120
CTTAGGGCTG AGCTAGTAAA TGCCATTCCG TGCCAAGGTG CTCAGTGTGT CGCTGTGGTT	180
GATGGCGTTC GACAACTTGT GGTGGTGGCA AATAATAGGG ACTTCTTGGT GTACTCCAGT	240
ATGGACGAGA GAGGCCTGCG TCTAGTTGAG ACATATACAG AATTGCTTGG CCCGAATTAT	300
GGTGTAAG AGCTGCTGTA CTCGGAACCG CTGCGGACAA TATTGTTCCG CACGACCAAG	360
TGCTTACTGC TACTTCATTG GAGCAACTTA CAACATTACG ACAAGATAGT TGACAAACGA	420
GGCATTGACC ATGCCTGGCT GTTTGAACAT CCATGTGGGA AGGCTGAGAC GTGGATGACG	480
GTGCTTGTTT ACTCGGTCAC ACGGTGAGC AAGATAAAGA TGCTGACATG GGTGGGGCGG	540
CAGTTCCAAG CCGTGCAATG GGTGGCACTA GGCAAGGAT CGGAAGTCAT CCAGCTCAGT	600
AAGTGGGGC CGCATGCTG TGTGGTTGCT TACCTCGAC GACTGTATAC CA	652

(2) INFORMATION FOR SEQ ID NO:1122:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1683UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1122:

GATCTCGTCA AATTCTGCTC TAGCATATC AACCTTGTTG CCACAACCTA GAATTCOOCC 60
 ATCATGCATT ATGTTTATAG ATGTACAGTT CTAAAAAATT CGTAAATATA ATGAGACCTA 120
 TCTCTTTTTC TCATCCTTAT AGTCACCCAA AGTTTAAACA TGTGACATGC TGCCAGATTT 180
 ACAGTCATCT GCGGCTATGA TTCTCTGCAG AGACCTGCCA CAATTATAAT GTGTAATAT 240
 ATTGCTTCCT CTGAGGTGTA AGAGGAGAA AAGTTCACTG CTCCTAATG TTAAATTCTT 300
 CTGGCAAAAG TAGCAGGGT TATCTTCATC TAACACCAA AATTCAGATA TGATCTGGGA 360
 TAAGGATAG GTGCTTCGA TGAGGTGAC TTCAAAAGA TTGTTCTGTA TAAGGATG 420
 GTTTTCTTC ATGGAGGCAC TTTTAATCCT TCTACTTAGG AATTCGTAA GCGTGTAT 480
 CGGAATATG GCGGCAGTT TCTCAACAA TGTATGCA TCTAGCTTG AACCATCTC 540
 TAGCAGAAAC AGATGAAAGT TTCTCCATCC GCTAAATCT ACCTTGCAA GCAGCTTTTC 600
 AAACAAGTTC ATGAGAGCTG CTGTGCTGC ATTTTGTGTT GTGCATAGA GCTCATACA 660
 ATATAGAGAA GCTTGGTTAT AATTCCTAG ATCATCACT AGGATCCCTA ACGCTGTT 718

(2) INFORMATION FOR SEQ ID NO:1123:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 577 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1684RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1123:

20	GATCTGTACA CTTCAATATC GAAAGAAGTG TCACGGGCAT ATTCTGCAGA GATTTGAAAA	60
	AGCACACAAA GCAATATGAC ATCAGGCTAG AGCTTGGAGC GAGTAATCTC CGGTGATTGG	120
25	TGATCTCTCT TTAACCAAGC AGCAACCGT GTCTCATGTT GCTTTTCCCA GCTAATAATC	180
	TCATGCACCA CAGCCATAGA TTCAGCATAA TGAAGGTATG TTGGGGGGGC CTCATTACAC	240
30	CATTGATAT ATATTTCGCC CAGGCATCG ATGAAGTTCC CTTCGTCTTG CAGCTTCCCA	300
	AAATAGGTG TCAAAAGCAG TTCTTTGTC AAGTCAATCA GCGATAAAA GATGTCAAAG	360
35	GCAAGAGAGG GGAAGTTTTC GTGGTGGGC AGCAACGCG GCGAGAATTG TGCGCGGTAG	420
	ATTCTACCG CAGCATGGGC CAGGTTCAGA CTTTCTCTTT CGAGCACAAT AAGGTCAAT	480
40	ATGTAGCTCT GCGCTTTAC TTCTCTAGGA TTAATCTCTG AAAGCTCTTC GTGGTCAAT	540
	TTCCAGTACT CGGTCCAAAG TCCACCGCG CGGTGA	577

(2) INFORMATION FOR SEQ ID NO:1124:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1684UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1124:

10

GATCCATGAC GAGCAGCTGG ACCTGGTGGC CGCTCTGGGC CTGCGGCCAG AGAACAAGGA 60

15

AAGCTGCAG AACCTCCGC TGGGCGCGT CAGCGTCAG TTCAAGGAG TGGTGACGA 120

20

CTACTGCGAG GCGCAGGCG TGGTGGTGA AAAGACGGGC GAGTGGCA COCTCGCGT 180

CTACCAGCAT GCAAGTACTG TCCCGGTCTT CACCGTCACA CAGGTACACC GCGCGCGG 240

TGTAGCTCTG TGGAGGAG TGCTTTGGT TCAGGAAGG ATAGGCTTCA AACCTAAGTA 300

25

CTTATAAGAA CTAGAACTC TTCTAAAGAG CGCTTAGTGG TTCTATATAT ACAGGACCTA 360

GTACTCTTGG CGCACTCAGT GGGCTGGTC GCTTTTGGG CTCTGGGCG CGGCTCGT 420

30

CTGGGCGAG GCTGCTCTT CGCTCTCCAG CTGCTCGCG TAGTCTGGG GTGCTGGG 480

GAAGCATCTT GCATCACCCT GAATTCCTCA CCGAGTCAAT CCGCTTAGGC TGGGCTCTG 540

35

AGTACAGGAA GCAGCGGAC GCAGCTTGA ACTCTGGCC GCAGCGGCG TGGGCGATGC 600

CGCCAGGCA TGGGCGTCC CAGTTGATCT CCGCGTGTG GCGATTGTAT GCTCTGCTG 660

40

CCCTGGCGAG CCTCAGCGC GCTAGCTTTG TCTCGCGG CGCTGG 707

(2) INFORMATION FOR SEQ ID NO:1125:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 666 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1685RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1125:

10 GATCAACTTC GCGTAATCC TTAATCATTG TCACTGCTAA CTGGAAGTAA GTCTGTGTGT 60
 ATGCCTATAG TGAAAGTTTA ATGTGATGGT TTTATAGTAA TCGATGGAAC TTTATCGCG 120
 15 AAGCCTCAAG CTGATCATCA CGTGAGTAAC CGTCGATATG CAGAACAGAG GATACCATAA 180
 ATTGCTATTA GTAATCAATT AATAGACTTA CATATAGCTC AAAGCTGATC ATTGATGGT 240
 20 CTCAACTCT TTTCATCGTC TGAACCTTTC GGATTTTCAC TTCTGTATC ATTATACCAT 300
 GTATAATCT CTAGTAGGCT AGTAGTCTAG TATCTGGAT AACCCCCCTA TATTACATAT 360
 25 AATATGAGTA AAATACAGAA TGACGTTAGC GGATAATCTA AGGCTAAGGT TGCCTACACT 420
 AAGTTAAGG GGGCTTCTT ATCTTCAGC TTGTCTTCT AATCAATAGA ATTGTTTTTC 480
 30 TTTTCCACT ATTGGTCCC TGGCAACTG CGAGCCACC CGGTATCTT TAGCCTCTGA 540
 GGTGTCTCT TCGACATCAC CTTGTCTC CGGATCTCT CGGCAAGTGG TTCAACTGTA 600
 35 CGCTGGTGC ATATTTAGTG TGCTCAAGGT TCTGAAAAT AGATGCGAGC ACCTTGTCCA 660
 GATAAT 666

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(2) INFORMATION FOR SEQ ID NO:1126:

(i) SEQUENCE CHARACTERISTICS:

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- (A) LENGTH: 642 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1686RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1126:

5 GATCCTCTCC GAGGTCAAGA GTGTGTGCAT GAATTAACCTT CATTTTAGGA ACAAACTTGT 60
 CTAGGGTTCG CCTACTAAT TCTGCTCGA CTTTGAAATC CCAAAATTG ACAGTCTTGT 120
 10 CTGGGGAAGC AGTCACTAGC CTCCTCCCAT CACTAGTTAG GTCTAAAGAC CAGATTGCAG 180
 CGGTGTGTGC CTCTTCAATA TTTTCTAGCA TAGTAGAAGA TCGGAGATCA AATAGCTGAA 240
 15 GTTGGCCCGC TCTGTACCC AGAATAACCA AGGCGCCACC TGGTAAAAAC TTACAGCATA 300
 AAGCATAGCC ACAGTCAAGA TTGGGATAC AAGTTTTAGT CTGATGTTC CAGACCTTGA 360
 20 GGTTCCTATT TGAAGCAGT GCTAGTAGCT TATCATGCT ACTGATGTCT GCAGCAGTA 420
 GATCAGTCT ATGCCCCGC GATTGATAC TATGCAATTT GATGCGATTA GCTGAGCG 480
 25 GTTCTTCTT TTTGTATGG ATTGAGTAGT ACTCTATAGT GTTGTTTGCA GTCTGATCA 540
 CCAGTTCCAA TTTAGATGG GTACAGACG TOCATGAAGA TGTTTTAGC TTAATAGGG 600
 30 ACCTTACGAG TTGAAAAGG ATGCAAAAGT AAGTTCCAT AC 642

(2) INFORMATION FOR SEQ ID NO:1127:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 675 base pairs

(B) TYPE: nucleic acid

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1687RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1127:

55

GATCAGGACA GTAGCAGCTT GACTGAGTAT CAGCAGGAAA AGCCTAGCTA ATTGGGGGGA 60
 5 GTACAATTAC AAGTACCTGT CTGACTACTT CTTTTTGTGG GATGCCATAT TTTTTAGGAT 120
 GGCTGCAAC GGGCCGCTGG GGGCGGCATC CAAATTTATG GAGTTGAAGA GCTGTTCAAT 180
 10 GCGCTTTATC CCATCTGCAC CGTCTTTATC GCGGAACATG GCATGCAACT CTTCAAGCAT 240
 GATATCTTCT TCCTGTGCT CTGATCCGGC GTGTGCTG TTTGGGCAGT CTTGTAGGC 300
 15 GCCATTTCTG TAAUGTTGAA GCTGTTCTTT GTTCATCTTC AGACCTCCG TCAGGAAATA 360
 TTCAAAGAAA TGGTCTTCAC TAATATCTAC GCGTTCATC TCGAAAAATG TCGAGCGCTC 420
 20 TTCAATCCCA GCTGAAGACC CCGACCAGA AACATGCTCA TTGCTACCTT CATGTCATC 480
 TTTAATATCT GTCAGGAAAG TCTCAGGGA CAGGGCCAAG GCATCCATAG ACCCTCTTT 540
 25 GTCCGAGTC GGTACCTCCG TAGTTAATTC AGTGTAGAG AACCCACCG GGCGCTCTAG 600
 CTGTTTGTG TGTACCAGAG CGCTACTAG GTCACCTCT AACTTTCTT TGGGTTCAGC 660
 30 TGTCGTTAAC TGGCC 675

(2) INFORMATION FOR SEQ ID NO:1128:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 655 base pairs
 (B) TYPE: nucleic acid
 40 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1687UP

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 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1128:

55 GATCCGTTCC AGTTTGGCCA GCGGAAGCTG GCGGACGAGG CGGACATCTG GGTTCATAAC 60

GGGTGGGATA ACGTAGACTG GGGTGACGAA CAGATCGGC TCGCAAAGGA GAAGATAGAA 120

5 GAGCAGAAAG AATACCCGGT GCAGGAGTTT GACAAAAAGC TGTATCATAG CAACCCCGCA 180

AGGTACTGGG ATATATTCTA TAAAAATAAC AAAGAAACT TCTTCAAAGA CAGGAAGTGG 240

10 TTGCAGATTG AGTTTCCCTC TCTATACGAA GCTACCAAGA AAGATGCTGG TTCAGTGACT 300

ATCTTCGAGA TTGGGTGTGG TCGGGGCAAT ACCATGTTCC CGATCTTATC TCCAAACGAA 360

15 AACGAACACT TACGGGTGTG GGGTGGGAC TTCTCCCGA AGGCCGTGGA ATTGGTAAAG 420

ACGTGCAAA ACTTTAACCC CGGAATGCC CACGGACGG TATGGGACTT AGCCAACCT 480

20 GATGGTCTTT TGGCCGATGG TGTGAGCGG CATTCGGTGG ACATGGCAGT AATGATTTTT 540

GTTTTAGTG CCTTGGGGC CTCACAGTGG GCCCAGGCTA TGGATAATTT GCACAAAGTT 600

25 CTAAACCAG GCGTAAGAT CCTCTTTAGA GACTATGGCA GGTATGACTT GGCTC 655

(2) INFORMATION FOR SEQ ID NO:1129:

30 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs

(B) TYPE: nucleic acid

35 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1688RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1129:

50 GATCTTGTTG AGAACACTCA ACATCGCGT AATTGCAGAG CCCCCTGGA CCAACCGAT 60

TTCTTGTTAC GCAATCGTCA CATAGCTGAA CGTCTTACA GGACCTTGA ATTCCACAGT 120

55 TTGGCTGGC TGTAGCCAG CAAACCATTT GGATACCTTA CCGTGACAT AAGATTTGAC 180

AATGATATCG AAATGGCCCT CGGCAAATTT GTTGGAGATA GGGTGTAGT AACGCATTC 240
 TTCTACACCA TCCAGCATCA CCTTCGCAGC TAAATGAAAG CCAGTAGGTA TATCAAGAGT 300
 TTCCACGCTT GAACGGAGCT TGAATCTGTA TATCGCAGCA TTTTTCCTTA GAACGATCCG 360
 TTCTTCCAAT TCTAATGGCG TCCACTCATT TGAAGAATT GAAGTCCTGC TTCTGTATGC 420
 TAGTAGCAGG CGTGCACCTA CAAACATTGC CAAAGCTAGA ATGCTTAGAA GGTACCATGC 480
 GTTCCCCGCT GACCAGGCGA TAACAAGAAC GCGCAATGTA AAGATGCCGC TGGGGATGAA 540
 GATCCCATGA ATGGGATCAT CCAATATCTC CATACTCTG CGTTGGGTCA TACTAATATT 600
 TTGAAAGCTC GTCTAGCTA TGTCTAGTA AGGATGAGAA CGTTAATAT ATGCTTCTC 660
 CTAGTTCTAT AAGCAAGGAC TCCTTTGCAA CTGGTGAAGT ATGCTCTAAC GGTCAAT 716

(2) INFORMATION FOR SEQ ID NO:1130:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1688UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1130:

GATCAGGCGG GACGGGTACT TGCAGGAAGG CCTCAAGAAA OCCAAGGGGG GCGAGGAGGG 60
 CTTCTCGAAG TTTTTCAGG AGACGGGCTC GGGCAAGTTC GTGCGCGGGG CGGTGTAGT 120
 GGACTTGGAG CGGACGTGA TCGACGAGGT GCGCAAGGC CGGTACGGG AGTGTGTTCA 180
 CCGGAGCAG TTGATCAGG GAAAGGAGG GCGGCGAAC AACTACGGC GTGGGCACTA 240

CACGGTGGGG CGCGAGCTCT TGGACGATAT CCTAGACCGC ATCGGCAAGA TCTGGACCA 300
 5 GTGGGACGGG CTCGAGGGCT TCCTCTTCAC GCACTGGCTT GGGGTGGTA OGGGCTCGG 360
 CTGGGGTCT CTGCTTTTGG AGCAGCTTTC TATCGACTAC GGCAAGAAAT CGAAGTTGGA 420
 10 GTTGCCGTG TATCCCGGC CACAGGTGTC CACTGGGTC GTGGAGCAT ACAACACGT 480
 GTTGACCACC CACACCACAT TGGAGCATGC CGACTGTACG TTCATGGTGG ACAACGAGGC 540
 15 CATCTACGAG ATGTGCAAGA AGAACTTGA CATCTGAGA CCTAGCTTTG CGAACTTGAA 600
 CAACTTGATC GCCCAGGTGG TCTCTCGGT GACCGGTCA TTGGTTTGG ACGGCTCTT 660
 20 GAAAGTGGAC TTGAAC 676

(2) INFORMATION FOR SEQ ID NO:1131:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 700 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1689RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1131:

45 GATCGTCAC AAGTTTGAG AGCTAAAGCT AAAGGAGGTG TTGTTGAGAG GTATCTACGG 60
 TTATGGTTTC GTTGACCAT CTGCCATCCA GCAGCGTGG ATCTTGCTA TCATTGAGG 120
 50 CCAGGAGGT TTGGGCGAG CCGAGTCCG TACCGGTAAG ACTGGTACCT TCTCGATTGC 180
 TCGTTGCAG AGAATCGAG AGAGCATCAA GCGCCACAG GCGTTGATCC TAGCTCTAC 240
 55 CAGAGAGTTG GCCTACAGA TCCAGAAGGT TGTGATGGC CTTCGGCTGC ACATGGAGCT 300

TAAGGTCCAC GCTTGTATCG GTGGTACGGA CCTGTGTGAG GAAGGAGAGG CTTTGAGAGC 360
 5 CGGTGGGCAG ATTGTGTGTC GTACCCCCCG CCGTGTGTC GACATGATTG AGAGACGTAA 420
 CTTCAAGACT GACCACATCA AGATGTTTAT CCTGGACGAA GCCGAGGAGA TGTGTGCTTC 480
 10 CGGCTTCCAG GAGCAAATTT ACAAGATTTT CACCATGTTG CCACCAACCA CCCAGGTGTT 540
 GCTATTGTCT GCCACCATGC CAAAGGAGGT GTTGGACGTG ACOGACAAGT TCATGACAAA 600
 15 GCGGTCCAG AATCTGTGTC AAGAAAGGAT GCCTTGACCT TGGAGGGTA TCCACAGTA 660
 CTATATTAC GTGAGAGCG AAGAGTACAA GTACGACTGT 700

(2) INFORMATION FOR SEQ ID NO:1132:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 657 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1689UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1132:

GATCGGCTG AACCTCAGG AGGCAGGCT GTGATCAAG GAGGGCTGC AGCACCAGG 60
 45 GCGGTGTTT GGGAGTGGC GGGACGGGCT GGAGGAGGAC GAGGGGACG GGGGAACACA 120
 ATATGACGCA GGAGAAGGAG CTGGCGATC TGGACAAGCT GCTGGAGAAG ACGACGGGG 180
 50 GACAGAACCA GCGCTGAAG CAGACGATG TGTACTGAC GAATTGCGG CCGTTCCGG 240
 ACCAGGAGC GTGACGGG GTGACGAGC TGCTGGGCTC GAGGGACTG CACCCGTTG 300
 55 AGATTGCGCA GCTGGGGTGG CTGGGTTGG AGGACGGGA CGAAGCCAAG ACGCTGGTGC 360

CGAGCCTGGG GAACAAGATC TOGAGGAGG ACCTGGAGCG GATCCTGAAG GAGCTGTCCA 420
 5 ACCTGGAGAC GCTGTACTAG ATAGCTACAT AGACAGGAAG AACTTGGCGC CGCCGCGCGC 480
 CCACCACTGG TOGAGACAGG AGTGGGATGT GTGCTGGATG TOGAGCGGCT CGCGGCGGAA 540
 10 GTTCAGACG CAGGCTGGC CGAGACGGCG GAGCTGGCGG GAGGGGACG TCGGTAGGG 600
 CAGCTGGAAG TTACCGATCT CCTGGAAGTG GTGCACCTCG TCGCGCGCA GGAACAC 657

15 (2) INFORMATION FOR SEQ ID NO:1133:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 718 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 30 (A) ORGANISM: PAG1690RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1133:

GATCTGAAAC TAATGTCATC CGCGGAAGAA CATACTAAGA GCTCATGGTT ACATCGAGAT 60
 40 GAGACAAAGT ACCTGATGTA TAAGATTTT ATTGACATAT GCGCTGGAG GCAAACGGCA 120
 GGCTACCGCC TGCCCGGTGT TCGTCTACA CATGACAACA TAATGTGGC AATGTCAGGC 180
 45 GCGTGGACT CTTCACTATG TGCTGCTTTA TAAGCTCACT TCCAAAAGT CCGTGGGCTC 240
 TACATGCAGA ACTGGTGGCA GAGTGGGC TCAGGGCTG TAGAGGTAA GCGGAACCT 300
 50 TGTTACGAGC AAGATTGGAA GGATATTGAG AAAGTGGCG CGTACCTTAA TATTCGGTC 360
 GAGAGAGTCA ATTTGAAAG GGACTACTGG CTGGATGTTT TCGAGCTAT GTTACAACG 420
 55 TATCAACAGG GTTATACTCC GAACCCAGAT ATTGGCTGCA ACAGGTTTGT AAAGTTTGA 480

GCGTTGCGGG AGCACCTGGA CAAGGAGTAT GGAAGCGGCA ACTACTGGCT GGTAACAGGC 540
 5 CACTATGCGC GAATCTATC CCCCCAGACT CGCAGAGAGA CCCACCTGCT GCGGAGGCAT 600
 TATGCGCCAA AGGACCAAAG TTACTACTTA TCCCAAGTCC GCGGGGAGGC CCTGCGGAC 660
 10 CTCCTTAATG CCCATGGGAT TTCTAACAAA ACGGAAGTC CGACAATGGG CCGCAGAA 718

(2) INFORMATION FOR SEQ ID NO:1134:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 696 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1690UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1134:

GATCAGAAAC ATCAACATAT GGIGTCTGAA GACCTTAAGG CGACGGTGA TACAGCTAC 60
 35 CATCTCCAAG CCGATGATGC CGCTATATAT GGACACGGCC GACGCGTGA TTGCCAGGAT 120
 TCGCAGCTTC AGCAGCTGGC TCGAGGTGAA CGTCGAGAAC ATCCCGGCA GTCCGAGC 180
 40 GAGGTCACC GTGGTGTGT TGTAGGACCC GAATACACAT GTGTAGTTGC TGTCCATCCA 240
 CTGTATCTGA GACGCGOCT CCATCTTGCA CGTGGGTGG CTACAAGTCT AGCTCCGCT 300
 45 CGCACCTATA CTTTGTATCT GTTGGGCTT TCGTGGGCG TAGCCCCCTC GCGCTTGGCT 360
 CTTATCCCTT CTGGAAGTGC TCTCCCTAA GTTGATCCC AGCGACCTCC TAGTCGAAA 420
 50 CTGCTGTCTA CGTTGGCCAG GCACTAGTTG CCTCCACTG CAGGTATCG ATAAGTCTA 480
 AAATACCACC AAGCAGGCGT TGTACTGCTT CTATAGGCA ACCCTGCTT TTGTTGGG 540

TGACACACTC AAGTGACTGC AAGAAGACTA CCTACTCAC AGATACCGTC GTCGGTTGTA 600
 CGCACGCTAA AAGACAAGTT AAATCTACGA CACATATAGT GCTCGCAAG CTCACCGCAT 660
 CCGGAAGGAA CAAGCTATTA GAACTGAGA CACCTC 696

(2) INFORMATION FOR SEQ ID NO:1135:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 693 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG169LRP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1135:

GATCTTCTTT GATTTCTGGG TCTTACCTGC CCCAGACTCC CCTGTACTA ACACCGACTG 60
 GTCTGCCCTC TGTGTCAACA AGTTGGGGTA TGCTGTCTCC GCTACGGCAA AGATATGGGG 120
 CTGGTTGTCT TCCTTGGGTG ACCCATGGTA CAAGTTCACA TAGTCTGGG TGTACACCTT 180
 GATGTTGCTG TACGGATTC ACGGACGAG GAATAGCCCA GAATAAGTAT ATATCATATC 240
 GTCTTGTAT CGGTTCTCCA AGTTGTACAA CACAGACGCC TGGTTCAAGT GGTCAACTC 300
 GGACATATCG TCTATCTTGT CAAAGTTGA CGGATTCACC GCGCGGTCT CCACTCCAG 360
 CACTTCTGGT TCCTTGGCAT TCACTCTCAC AAGACAGACC TTCTCATCTT TGTCTGTTT 420
 GTTTTAAATT GTCTTGTGG AAACCAACTG TCCTTTCACA AACACCTCT CAGCATCTGG 480
 AACCCTAATC ATTGACATT GTTCACTCAT CGGGACAGAT GCTCTTGAAC TTATCTAATA 540
 TGCAATAACC AAATTCACCT TCACTTAAAT CACCTGCTG TTACACACGA AGCAATGTTG 600

GATCTCATAT TCACACGACC TACTTTTTCG AAACACTTAT TTGTTTATGT CGGCTCGAG 660

CATACACGTC GGTCACGTGA CAGGCGCATG TAC 693

(2) INFORMATION FOR SEQ ID NO:1136:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1691UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1136:

GATCATTATG CAACCGAATC TGGTATCTCA GAAGATTACC GTAGGACTGT GCGTGTCCGA 60

TGGATTACGT TAGTGGGGTA GAGAATGAAG TAAGAAGCAG CTCTGCGATT ATTGTGCGTT 120

TGCGGCTCAT GTGAGGTAAA GCGCTATCCC GCAGGGTGGC GGCTTTCTGC AAGAAAATCT 180

GGGCATCAGC CCCCCGAAAC GAAATCGGAT AGTCACCTGT GCCATGCGCA CGAGTCATT 240

CCCCATTGCT ACAGAAATGA ACCGGCAGAA TCGGGTAATG GATTTTCIGT GCGGTTCGIG 300

CCAAAAGGTG ATCTCCACTT GCGTCTGCC CTGGGGCGGT GGTGAGCAG AGCACTGGA 360

AAAAGAACAG CACAGAAGGC CAATGCAGTT GGCAATTGA GGCAATAGCC GAGCAGGAAC 420

AGTCGAAAGT GCGTGTCTG GCGCTGTTGG ATCTGAAAAA TCGAGGAAGT TACAAAAAAC 480

AGTGGGGCAA TACATAGAAA CCGGCGACCC GGCGATCCC TAATCATCTG CCATGGAGAC 540

GCGGGTCCGG CGCTCGAACC AGCGGTGAA ACCTTGAGGG CATGGTGATA CCGGCGCGTC 600

GCGGGGCGAC TCAAACAGGC ACGTGTAAAT CCTGACAAA CCGAGCGGG TAATTCTTTT 660

CCGCAAGCCG GACGGGTATA TGAATCGTAC GATACCAGTT GTCGA

705

(2) INFORMATION FOR SEQ ID NO:1137:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 636 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1692RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1137:

GATCTAAATA TATATAATTT AATTATATAA GATTAAATATA AACTTTTITA TTATAATATT	60
TAAGTATTAA ATTATTTAAA CTATTATTAT CATTTATTAA TAAATTAATT ATTGATTAT	120
TAATCTTAT TATATAATTA TTATATAATT TACTTAATTC ATCATTTATTA ATATTTATAT	180
AATTATAAAA ATAATATTTA ATATGAATAC TATTAGTCT ATGTTCAAAT TTAAATTAG	240
TTATFAAAT ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAAT AGATTATCAA	300
TAATTAATAT ATTATTTATT AATTGTTTAT TAAATAATA TATTTTATTA TTATAAAGAT	360
TTAATTTATT TAAATATTGT AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT	420
TATGTIGATT TATATTATTT AATCTTTTTA TAAGAATTAT TATTAAATTT AATTTTAACT	480
TTAATTTCTT ATTATTAATT TTATATTAT TTAATAAATT ATATTCATTT TATTTATTTA	540
TTTATTTAAT TAAATTAATT ATTAAATTAA TATTTTATCA TTATTTAATT AATTAATAAA	600
ATATTATAAA GAATGTAGTT AAAAACTTT ATAAAA	636

(2) INFORMATION FOR SEQ ID NO:1138:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1692UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1138:

GATCTTGATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATTCTTAT TCTTACTAGT 60
 ATTAAAGTAT TTAGTTGATT ACTAACTATT TATGGTGGIT CATTAGATT ACTAACACCA 120
 ATATTATATC TATTATCATT TTTATTTTAA TTTACTGTAG GTGGTTTAACT TGGTGTAGTA 180
 TTAGCTAATC TATCATTAGA TGTAGCATTC CATGATACIT ATTATGTAGT ACTACATTTC 240
 CATTAAGTAT TAAGTTTAGG TGCTGTATTC TCTATGTTTG CTGGTTATTA TTATGAAGT 300
 CCTCTTGTTT TAGGTTTAAA TTATAATGAA AAATTATCAC AAATTCAATT CTGATTAAIT 360
 TTCTTAGGTC TTAATATTAT TTTCTTCCTT ATGCATTTCCT TAGGTATTAA TGGTATACCA 420
 AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTGAA ATTTAGTATC TTCATTGGT 480
 TCTATAATAA CTATTATATC ATTAATGTTA TTCTTTATA TTATTTATGA TCAATTATA 540
 AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAIT ATATAAACT ACCTGATTIT 600
 ATTGAATCAA ATAATATTTC CTTAATGAAT ACTACTAAAT CATCATCTAT TGAGTTTATA 660
 TTAAATTCAC CACCTCTTAT TCATTCAITT AATACTCTC TAATTCAATC TTAAATAT 719

(2) INFORMATION FOR SEQ ID NO:1139:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 714 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1693RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1139:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCATT GAGCTCTTAC GAACTGCACA	60
AACTACTCG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTCAACTGC TTTCGCATGA	120
AGTACCCCC AGGCTATTTT TCTTACCGC CTGGTGTGTG TCTATATAAC CGGTGTGATT	180
TTTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGCGCCA	240
TGCGAAAATC TGCTTTTTA CCGCTGTTTC TCCAGTCTT AGCACTGGCA GAAAAAGAT	300
GTATGGGTA TAGGCGCTGG CCGCGCGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA	360
AAAAGACGTG GCGCGCCCG CCGGCAGAG AAGAAAAAT AGCGGCCAC CCGTCCAAGC	420
AGACGACAG CGACACATA TAAATCCCA CACCAAGGA AGAAGTCTT GTCCAGCTC	480
CGGCTCAT AGCTGCCAT TCTGTCCAT CCGCTTGA AACCCAGTAG TGGCATGTCA	540
AAGCATGCT CCGAGCTCC GCTGCCCTGC AGTGACATC CTCTTCTAA CCCCAGCCAG	600
ACTTCCATA CTTGGCACT TCACATAGCA TATCACTTT CAGTCACTT AGTGACATT	660
CCGTACCGA ATGGCACTCC AATGCGACA AACCTCTCC TACCCCGTGA CTTA	714

(2) INFORMATION FOR SEQ ID NO:1140:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 692 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

180 TCGCCAGCGC GGTTGTCTC ACCCGCAGCA ACAGGACGAG AACTCTCCGC TTTCGGGCTC
 5 GTGAGATTTT GGATTCAGTC ACGTGATICA CGTAGAGGTT ACCCGGAAAG AGCGGCTTGG 240
 ATGCCAGTAA TCACCGCGGT TATCCCGGCG CTTCTTAAGC ATTCAGTCTG AGCGGCTTCT 300
 10 CCGCGCTTCC TTGTTCTCCT GGAATTTCAA AGGGCGGGCG GTATATAGGC GCGAGAAAA 360
 ACACGGTGGC GAACGTTGTT GCGCCAAGC GTEATCGTGA AGAACAAGCA TAATGGTTTC 420
 15 CCGTTCGGTT ATTAACAGG TGCAGGGCT AATCCAGCAG AACCGGTGT TCATTGCATC 480
 CAAGACGTAC TGTCCGTATT GCGAGCGGC AAAGCGTAGC TTGCTGGAGG AGAAGCGGT 540
 20 CCGGCAAGC GCAGTAAAC TGTGGAGCT TGACCCATG GGCGAGGAGG GCGCGGTGAT 600
 CCAAGCGCGG TTGCAGGAGC TGAGCGGCA GCGCAGGTG CCAACATCT ACATCAAGG 660
 25 GCGCCATGTG GGTGGCAACA A 681

(2) INFORMATION FOR SEQ ID NO:1147:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 667 base pairs
 (B) TYPE: nucleic acid
 35 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

 (ii) MOLECULE TYPE: DNA (genomic)
 40
 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1698RP
 45

 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1147:
 50 GATCTGGTGC TTITCAAGC GCGGCCCCAG ACAATTTCCG GAAGCATACA TATCGGCATT 60
 ACATAACAG ATTTTATGAC TAGTACAGTT AGGTATCTGG GAGATCACCG GAATTAATCC 120
 55 TATATCTTAT TTCTGTATTC TCAGTACTG ATCGCTGTG ATGAACGGGC AACCTGTGA 180

CTTGGGGATT AACACTGTAT GAAGCCGGAC GGGGGGGTAG CACATTGGTA CTAGGCTGGC 240
 5 TGAATTCATA ATTGGAATAA GGTGCTGCTT GCCCCGATGG CTGGIATGTC CGGTGCTGGG 300
 TTGAAGGCAT AAAATTGCTC GAGCTGTAGC ATGTTGCCTT CTCTAGCATT ATGTTGTAATG 360
 10 TAACCTCCGC ATTGGCCAGA ACCTGGGGCA ATGATGCAAG ATCTTCTCTC TTCTGGGCAT 420
 ATTTACCGAT GAGTTTGGTG ACATGTGGTC TAAGCGTGT GACGGTAGAG TAAAGTTCTG 480
 15 ATATCTGGTC TTGTTGTGTC ACATCCACAT TGTGGGAGAC CCTTAGTTTC TGGAGCAAGT 540
 TCTGACATT GCGGCTTTC GCAAAGACAG CATGCTCTG AGCAGCCTCC TTAGCTACCT 600
 20 CCTCTGCAGT TGGCTCAGGG CATAAGCCGA CATAATTCAC TGGGAAAAT ACCAACCTTG 660
 CCGCGCA 667

25 (2) INFORMATION FOR SEQ ID NO:1148:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 572 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1698UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1148:

GATCAGCAAG CTGGCCGCCG CAGGTGTGCA TCTGGGGCAG TCTACGTGCT TGTTGGCGCTC 60
 50 CTCCTCTCAA CCATACATCT ACGGCTCTTA CAAGGGCATC CACATCATTG ATCTAAACCA 120
 GACCGTGTTC CACCTGAAGA GAGCTGGGAA GGTGTTGAG GGTGTTGGCG AGAATGGTGG 180
 55 CCTGATCTTG TTTTGGGTA CCAGAGAAGG GCAGAAACCA CCTTTACGGC GGGCTGCAGA 240

GAGGGTGGGT GGCCTGTTATG TCGCCTCGAA ATGGATAACG GGGACCTTGA CAAACCCAAT 300
 5 TGAAATATCC ACTGTCTGGG GCAGGCATGA AGTTGACTTC GAGGGCAATC CAACTGGCAG 360
 GGAATTGACA GAAGAAGAGA ACATCCGCAT CATAAAGCCG GACTTAATTA TTGTTTGGAA 420
 10 CCCAACAGAA AACATGAACG CGTTGAGAGA GGCTATGCAG GCTAGAGTGC CACCTATTGG 480
 GATCATTGAC ACCGACTCAG AGCCTTCAAT GGTACATAC CCGGTCCCTG GTAACSAACG 540
 15 ATTGCTACG TTCTGTAAGT TTACTTGTA AC 572

(2) INFORMATION FOR SEQ ID NO:1149:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1699RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1149:

GATCTGCGTG TATATTGGGA TGTATATGGA CTCACACTT TCGAAGCAA TGGAACTOGA 60
 40 AAGCTGGTGG ACCACTCTGC TGTATTCTCG TAGTCTTTCT GAAACGACG TAAGAAAATT 120
 AACCTTGAGC GCGATAGGG AAGATGCAAC TTAAATTTT TCTACTTGGT TACTCAAATA 180
 45 CTGATATAAT AATGCAGCT CAAATATGCT GTGGAAAACA CCACTTTTGC CGTTGGGAAC 240
 ATGCGGTGGG ATTTGATAA CCGATTGGA GATCGGGAAC AACTCGACG TAGTAGCCAG 300
 50 TAACGTGTAG GAAATATACT TTAAACGTC GGCTCGGGC ACCATGTTGC TGTAGTATGG 360
 55 GTTAGACAGA TATGCCAATG GAGTATCGTG CTGCTGGGC CGCTTGGGA CCGGGCCGCC 420

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1693UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1140:

GATCGTAAC TTCGGATAA GGATTGGCTC TAAGGATCGG GTAGTGAGGG CCTTGGTCAG	60
ACCGGGCAAG TGTGCTGTG GTCTGTCTC GGGGCTTGC TCCTGGGAC GGACTGCTTG	120
CGTGCTGTGT CGTAGAGGC CTGGTAGAC CATCTCTGCT CGTGGCTTGC TACAATTAA	180
GATCAACTTA GAACTGGTAC GGACAAGGG AATCTGACTG TCTAATTAAA ACATAGCATT	240
CGGATGGTCA GAAAGTGATG TTGAGGCAAT GTGATTCTTG CCCAGTCTC TGAATGTCAA	300
AGTGAAGAAA TTCAACCAAG CGCGGTAAA CGCGGGAGT AACTATGACT CTCCTAAGGT	360
AGCCAAATGC CTGTCATCT AATTAGTGAC GGGCATGAAT GGATTAAAG GATTCCCACT	420
GTCCCTATCT ACTATCTAGC GAAACACAG CCAAGGGAAC GGGCTTGGCA GAATCAGGG	480
GGAAAGAAGA CCTGTGTGAG CTGACTCTA GTTTGACATT GTGAAGAGAC ATAGAGGGTG	540
TAGAATAAGT GGGAGCTTG GGGCCAGTGA AATACCACTA CCTTTATAGT TTCTTTACTT	600
ATTCAATTAA GCGGAGCTGG AATTCATTTT CCACCTTCTA GCATTTAAAG TCCTATAAGG	660
GCTGATCGGG GTTGAAGACA TTGTCAGGTG GG	692

(2) INFORMATION FOR SEQ ID NO:1141:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 673 base pairs

(B) TYPE: nucleic acid

(C) STRANDELNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1694RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1141:

GATCGTTCC TTGAGAAGCA CCTAAAGCCT GAACCTCTGG CAGAAGCGAT CAAGGGAACC	60
TCTTGGGAGG GTAAAGTTAG TATTAACTTG GTAGACGGAT TOGACCACTC GTATTACTTC	120
GTACGACGT TGTGCCCGA ACAAGCAAAG TACCATGCAG AAAAGTTGGG TCTAGTTTGA	180
GATTGACGT TGGCCTGTT AATTGGTATA TACTTACATA TTTAGTCATA TGACGGCTTC	240
AAGTACTCTG ATTCTGCATT ATAAGTGCAG CGAATGCCA GCTTCGGCA GTAATGGCAA	300
CGCAACTGA ATTTGCCGGT AGTTCAACCT TGGCGGTTG CAGCACCGGT ATGCTCCGAG	360
CAGACTCAA CGTGGCTATT TGGCGGTAT CTACAGCTC GTGGGATCT CCCTGCCAA	420
GACAGCCACA GATATCACTC TCCAGCCCC AGGATAGAG TTCACCTTTG TCGGTTAGAG	480
CTAGGTGTG GTAGTCTCC GCAGATACAG CAATAAAGTT CTGGCCTTGT TCCAAATTCA	540
TCTTCATGAA TGAGTCTCG AGATATCAC CATTATCAC CTTCAGGGTG TATGTCTAT	600
TCTGGTACA TAAAACAGT GTCATGCAAG ATGCTCAAT CTTGGTTAAC CGTCCATCAA	660
ATGGCAAAT CAA	673

(2) INFORMATION FOR SEQ ID NO:1142:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 676 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1694UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1142:

10

GATCAGCCCC CGACCGAAGA ACACTGGCTT CCTCTGGCG AGCGCGAAA TTCTTGGACC 60

GAGTATCAAC AAATOCAGIT AGATAACGAT CACATGATTG CAACACTGGG GGAATTCATT 120

15

AGTTACCAGA CTGTTTCCCA ACTCCAGAG CCCCAAATA TCATGATTC GGTAGGTGT 180

GCGAACTTCC TCAGAAATCT CTTCACCTAG CTGGTGCTA ACCATTGTGG GCTTATACCT 240

20

GTCACTACAG GCAGCAACCC GGTGGTTCTC GCGAGTTCA AGGCAATGC AGCGCGGCC 300

AAACGCATAC TATGGTATGG CCACTACGAT GTGATATCCG CGGACCAACC GTGCAGTGG 360

25

GACAACGACC CCTTCACGCT CACTTGGGAA AATGGGTATC TTAAGGGAAG AGGCGTGTCT 420

GATAACAAAG GCGCGCTGCT TGCGGCGATC TTCAGTGTAG CCGAGCTTTT CCAGAAAGGA 480

30

TACCTGAACA ACGACATCAT CTTCTAGTC GAGGCGGAGG AAGAAATGG CTCTCGGGC 540

TTCAAGGAAA TTTTGCTTGC CTCGAAGGG CTCTCAATC AGCGTGGGA CTGATCTG 600

35

TTCAACAATT CCTACTGGCT GATCAGAAG GTGCGCTGCC TCACTATGG CCTCCAGGC 660

GTCAATAACG CCGAAA 676

40

(2) INFORMATION FOR SEQ ID NO:1143:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1695RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1143:

5 GATCTGCCCC CAAAAGATT TCGTGCCGCG TACCCCAAAA GATTTTGGT GCGGCTACC 60
 CCATCAGGAG ATGGCACTGG CTCATTGGCG AGCTCTGGG CATTTGCTA TGACAGAGGA 120
 10 ATGAGTCAGC TTTACTCCGC CACACCATAC TCCCGGGCCT TCAACAAGCT TCTGTTTGGC 180
 ATCGGCATCG TGGCAGTTC TTACTCTGG GCGCCAGCTG CATGGCGGT CATGCGAGC 240
 15 GTTTGTGCAC AGTTCTCCCT CCGCAGGTAT CGTCTCCCA CCGGTAAAGG ACCGACTAC 300
 GCAGGGCTG CCGCACTCAC GTGCGGGGG GTCTCTCTC CCACGTGAT AGTCACTTTT 360
 20 CAGTAGTGTG TGCTGCTTG AATTGGCAGG GCAATGGTTC AAGCTGCTCT GCGCGGAGG 420
 ACGACCCAT CTCGCAAGG GCGTGGGGG AGAAGGGTG TTGGGACCA GACATGGGC 480
 25 ATCTGCGCA GTACAGAGCT GCGTTGGTAC GGAGCTAAGT GTCTATATTA TCCCTTAAT 540
 AAACATTGGA TATGCTGTT ATTGTATGCC AACGGTCTC CCGGTACAAC GGGGTAGTCC 600
 30 CGCCCCCTCC TGAGCTATCC TGGGCGATGT GAAGTGCTT TGGTAAAGTG GTCTGCTTTC 660
 CCGGGCCACT TGTAAACACT ATGGGCGATC ATACAGCCAG GACTCAAATA C 711

(2) INFORMATION FOR SEQ ID NO:1144:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 654 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1695UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1144:

5 GATCTGAAAA GCAGGAAGTC GCAGTGGGAG GCGCCTGGCG GCACGTGGTG GCCAGCGAAG 60
 GGTGCGCGCG ACGGCGCACC GCGGTACGAC ACGGCGGTGG CACGCGCGCG CGCGCAAGGC 120
 10 GCGCAGCGCG TTGCGCGCCA GCGCGACTAC GGCACACAGG CCGGATACGC GCGCCAGGGG 180
 TACGCGCGCG GGGCGCGGTA CACGCGCCAG CCGCGCTACG GCGCACAGCC CGGCTAAGGC 240
 15 ACACAGCGCG GCTACGGTGC ACAGCGCGGC TACGCGGCAC AGCGCGGCTA CGGCGCACAG 300
 CCGCGCTATG CGCGCAACC CGGTTACGGA TACGCGCGCG AGCGCGGCTA TGGTGGCGCG 360
 20 CCGCGCGGTG ACGGCGAGCA GCGCGGCAC GGTACCGCG CGGCGCGAGC CGCGCGCGCG 420
 CAGAACGCGG GCGCGACAA CATGATGATG GCGCGCTGA TGGTGGCGCG CGTGGGGTTG 480
 25 ATGGCGCGGT CACTAATGAC CACAGCCATG TATAACCAG ACAAGGAAGT GCGCGATGCT 540
 GCGTACGACC GCGGCTATGA AGAGGCTTCA TCGAGCGGGA CTCTAGGCC GCACCGCGTC 600
 30 ACGTGGCAGA CCGGTAGAGA GCTAGGACAA CTTACGTAC GGTGCGAGT AGGC 654

(2) INFORMATION FOR SEQ ID NO:1145:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 711 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: PAG1696RP

50
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1145:

55 GATCTTGTTT TCATTGACA TCGAGCGGTT TGAGAGCAAC ACATCTGTGG TCACAGAGGT 60

5
 10
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 20
 25
 30

GCGAATCTCG GTCTACGATC CCCGCGAGAA CGAGGACACG CTCGTGCCCC ACTTCGCGAC 120
 GTACCACCTC TGTCTGAGG AGTCTCTGG GTTGATAAAC AAGCGGTTTG TTCCGAATCA 180
 CAAATCGGAG TTTCTCCATG GTGAAACCAT GGTAAATGCC CTCTCCGAGT GGGTTGAGTT 240
 CATTACGGG CTTATCGAGT ACTAOCCTGA CCCACCCACG GCGTGGAAG ACAAGTACTC 300
 GCGGGCAATT GTGGTCAATG GTGTCTCTGG TGATCTGCAA TGGCTTAGGA GTCTGCTCAT 360
 CGAOCCTGCC ACGATGCTG GCGCAGGCAA CTCGCATCG GCGGACCATG TTTCTGTCTC 420
 AGATACCGCG CATTATACC AGTACTTCTA TGGTCAGAAG GGTTTCATCC TAGGTAAGAG 480
 CTTAAGATTG CACGGTGTCC CACATAGCTA TCTGCACAAT GCAGGCAACG ATGCATATTA 540
 CACATTACAA CTGCTCATGA AGATGGGGGA TGTGCAGCAA CGCATCGGC ACCAATGGGA 600
 CGATCTATAT GCTGTCTTCC AACGTTGAA GCAATGGGAA GAGTATGAGA ACTCCAGGCC 660
 CTCCTCTCAG CACGAGAAT CCGTCCATAA CAGCACCCGC GCTACCGGA A 711

(2) INFORMATION FOR SEQ ID NO:1146:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 681 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1696UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1146:

50
 55

GATCGTCAG AAACCCATCG CCTGGCTGCG TCGTCTGCTA AGGCCAGAA CCGCACCTGT 60
 GGTCTTTTCA CTGCGGCTGG TTCTTTATTC CGCAGGGGG CCTCGTGGGC CCGCCAGGCG 120

TOGCGAGGCG GGTGTGTGTC ACGGCGACCA ACAGGAGGAG AACTCTGCGC TTTCGGGCTC 180
 GTGAGATTTT GGATTCAGTC ACGTCATTCA CGTAGAGGTT ACCCGGAAG AGCGGCTTGG 240
 ATGCGAGTAA TCACGGGCGT TATCGCGGCG CTCTCTAGC ATTCACTCTG AGCGGCTTCT 300
 CCGCGCTTCC TTGTTCTCTT GGAATTTCAA AGCGGGGGCG GTATATAGGC GCGAGAAAA 360
 ACACGGTGGC GAAGGTTGTT GCGGCGAGC GTATCGTGA AGACAAACA TATGCTTTC 420
 CCTTGGGTT ATTAACAGG TCGACGGGCT AATCAGCAG AACCGGTGT TATTGCATC 480
 CAGAGGTAC TTGCGTATT GCGAGGGCG AAGCGTAGG TTGCTGAGG AGAGCGGCT 540
 CCGCGAAGC GCGTAAAC TGTTCAGCT TCACACATG GCGAGGAGG GCGCGTGT 600
 CCAGCGGCG TTGAGGAGC TGAGCGGCA GCGACGGTG CCGACATCT ACATCAAGG 660
 GCGCATGTG GGTGGCAACA A 681

(2) INFORMATION FOR SEQ ID NO:1147:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 667 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1698RP

(x1) SEQUENCE DESCRIPTION: SEQ ID NO:1147:

GATCTGGTGC TTTCACGC GCGGCGGAC ACAATTTCC GAGCGTACA TATCGGCAAT 60
 ACATAACAG ATTTCATGAC TAGTACAGTT AGGTATGCG CAGATACCG GAATACCTC 120
 TATATCTAT TTCTGATTC TCAGGTACTG ATGCTGTTC ATGAGCGGC AACCTGTGA 180

CTGGGGGATT AACACTGCTAT GAAGCGGGAC GGGGGGGTAG CACATTGGTA CTAGGCTGGC 240
 5 TGAATTGATA ATTGGAATAA GGTGCTGCTT GGGGGGATGG CTGGATATGC CGGTGCTGGG 300
 TTGAAGGCAT AAAATTGCTC GAGCTGAGC AAGTTGCTT CTCTAGCATC ATGTTGATG 360
 10 TAACTGCGC ATTGGGCGA AACTGGGCA ATGATGCAAG ATCTTCTTC TTCTGGGCAT 420
 ATTACGCAT GAGTTTGGTG ACATGTGGTC TAAGGGGTGT GAGGTAGAG TAAGTTCTG 480
 15 ATATCTGCTC TTGTGTGTC ACATCCACAT TCTGGGAGC CCTTAGTTTC TGGACCACT 540
 TCTGACATT GCGGCTTGC GCAAGNCAG CATGCTCTG AGCAGCTTC TTAGCTACTT 600
 20 CCTCTCAGT TGGCTAGGG CATAGGCGA CATATTAC TGGGAAAT ACCAAGCTT 660
 CCGGCGA 667

(2) INFORMATION FOR SEQ ID NO:1148:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 572 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1698UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:1148:

GATCAGCAAG CTGGGGGGG CAGGTGTGCA TCTGGGGAG TCTACGTGT TTGGGGCTC 60
 CTGACTCAA CCATACATCT AGGCTCTTA CAGGGGATC CACATCTTG ATCTAAACA 120
 50 GAGCTGTTT CAGCTCAAG GAGCTGGAA GGTGTTGAG GGTGTTGGG AGAATGGGG 180
 CCTGATCTTG TTTTGGGTA CCAGAGAGG GCAGAAACA CTTTACGGC GGGCTGAGA 240

GAGGGTGGCT GGCTGTATG TGGCTGGAA ATGCATAGG GGGAGCTTGA CAACCCAT 300
 5 TGAATATOC ACTGTCTGGG GGAGCATGA AGTTCAGTTC GAGGCCAATC CAACTGGCAG 360
 GGATTTGACA GAAGAAGAGA ACATGGCAT CATAGAGGG GACTTAATTA TTGTTTGA 420
 10 CCCACAGAA AACATGAAG CGTTGAGAGA GGCTATGAG GCTAGAGTGC CAGCTATTCG 480
 GATCATTGAC ACGGACTCAG AGCCTTCAT GGTACATAC CCGGTGCTG GTACGAAAG 540
 15 ATTGCTAGG TTCTGTAAAT TCACTGTAA AC 572

(2) INFORMATION FOR SEQ ID NO:1149:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 664 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: Linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: FAG1699RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1149:

GATCTGGGTG TCAATTGGA TGTATGGA CTCACACTT TGGAGGCA TGAAGTGA 60
 40 AAGCTGGTTC ACCACTCTG TGTATCTCG TAGTCTTCT GAAAGAGCG TAGAATTT 120
 AACCTTGAGC GCGATAGCG AGATGCAAC TTAAATTTC TCTACTTGT TACTAATA 180
 45 CTGATATAT AATGCAGCT CAATATGCT GTGAAACA CCACTTTCG CGTTGGAC 240
 ATTGGGTGG ATTTCATAA CCGATTGA GATGGGAC AAAGTGAAG TAGTAGCAG 300
 50 TAACTGTAG GAATTAAT TTAACCTC GCGCTGGGC ACCATGTCG TGTAGTTCG 360
 GTTAGACAG TATGCAATG GATATGCT CCGCTGGGC CGCTTGGGA CCGGCGGCG 420
 55

GTAGGCAGAG GTTACCGGCG ACCGGGGCTC TGAAAGGCGC TTCACATTCT CGAAGGACTC 480
 5 TGCATAGACA CTAACCGGCG TCGACGGCGT CATCAGCGAG TTGTGCGGTT GCAGCGTGGC 540
 GTTCGTAAAG TATCCAGAGG CCGTGGGCTT GTGTGGGAAG GCGTGGCTCT CCGCGGGCAC 600
 10 GCTGTTTACG ACCGTCAGGT ACTTCAGCAC CTGCTCCTTG CTACCGAAAC TCTCCAGCAC 660
 TTTC 664

(2) INFORMATION FOR SEQ ID NO:1150:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 642 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1699UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1150:

GATCTCCACC GCGTCAGCA CCAAGATCG GTCACCGTCC CACCGGTCCA TGGCCACTGT 60
 40 CCGCGGAGG CTTTCGAAAA CCGCGCGTCC CTCGCGGTC GCAGCGGCTC CCGCGCTGTC 120
 GTGCGTCCG TGTCCGGCT CCGCGAGCG CAGGCTGGC ACCACCGCT CTATATTAC 180
 45 GCGCGGGGC TTCAGCGTGT CCGGCTTGAT GCGAGGGCTG GTGGGTTTCT CTCGCCACAC 240
 CTCAGGCTC TTGATAAAG TGTCTTAAT CACCTTAAAG CTCGAGTAT GCGCCCTGCG 300
 50 CCGACATAGT AGCGTCAGG TATGGTTTCC CGAATGTAC GCGTATATCT TCGCCTGTGT 360
 TACACCGTC AGGACGTTG TCACCGCAC CTGGAATCCA AGGATATGTT CCAAGTTGAT 420
 55 GCTCAITCTG CTCACCTCCA AGCCACACA GCTATCTGG CCACCTAGA ATGCCAGGCC 480

TGCTCCCGGT CCACTGGCTG ACTCCCAATC GTTCAGTTTG CGTGTGGGT ATTTTTTGA 540

AGTGGCGCTC TAACGATGAA GTAGGATTTT CTATGTATTA CTATGTGCA CAAAGGTTAG 600

TTCCAATAGT GCTTGCAACT ATCAGGTGCT GTGGAATTCC AA 642

(2) INFORMATION FOR SEQ ID NO:1151:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 624 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1700RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1151:

GATCAGCAAC CGCAGCGGAT GAGGGAGTCC GCTCAGCCAC GGTCTTGTTT TCAGCGCTTG 60

GCTTGCTTTT CTCCTTTATG CGTTGTACTA CTTCTGTGAT GTGCTGGCA TCCAGGCCCC 120

TTTTCTTAG CCTGCTTGT AAACCTGGCA GCGGCGGTT GCTACGAACA CGCAACTTGG 180

CTTCTGGATC AGCAAGCTGC GCTCGGTGTT TGGCAGCCG TTGCGATGCT CGCGATCCT 240

CGCGTTCAAT ATACAGAAT GCATCATGCT TGGCTGGCTC TATATGACC TGGTGGCCAT 300

ATATGAAAAG GCGGTCTTG AAGTTTGTG AAAACTGTC TGGCTGAGAT GCGGTAGCGA 360

ACCCAAGGAA GCATTTATTG CGGCATTTAC GAGGCTTGA AACACTAACT ACCCGTACT 420

TCTCATCTAC CAGTGAAGG GCGAGTCTG CGGAAGGAAG CGGCTCTGCC AACGTTTCT 480

CGCGGATAG AGCATATGG TTATCTTGT TGATGGACTT CAACAGTTGT CGAGCATATT 540

CTATCTTGA GGCATTTGAC GCTGGCAAAT TTGACAGGTA GACACTGGAT GCGCGGTTA 600

GTATCGAATC GACAGCAGTA TAGC

624

(2) INFORMATION FOR SEQ ID NO:1152:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 603 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1700UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1152:

GATCACTGGG CCTGGAGGGG CGCGCCTTTT TGCGCTGTT GTAGAACAGC ATGCCGCGGC	60
GGACCTTGTC ATAGAAGTGT TTAGACTGTA GGGTCCCAT CGAATGGGAG CCGCGGTAGC	120
TGTACTTTT CATGATAATG GGGTGCANA GCTTGAGGTG GTCTGTGTAC GGGGAGGAAA	180
TGAGGTTCG GCGGAGACG AGGTCTGTGG CCGCGCGAG CGACGAGCG CCGGATGGCC	240
ACTTCAGGA CTTGCGGAC GACGCGCGT GCGCGAGGA GTAGGAGCG ATGGCGAAGT	300
CGCGGCAAG CTGGAGCGG CGGAGCACG AGGTGAGCG CTTCAANAAA CCGCGAGCGC	360
GGTTCGGGG CTGGAGCTG CCGCGACAA ACGCAGAGC GCTGTGGCG AGAOCGGTGG	420
CGCGCTTC GCTCTGTGTA AGCCAGTGG CGGACTCAG CAAGCGGAC ATGCCCGGGA	480
AGTAGCGGC GCTGTGGCG CTGAGCTTG GAAACATCTT CGAGAAGAAG CCGGCTTCG	540
TGGAGCGCA CAAGCGGTCC GCTTGGAGA TGTCTCTCTG CGTGGAGTGC GCCAAGTCT	600
CCA	603